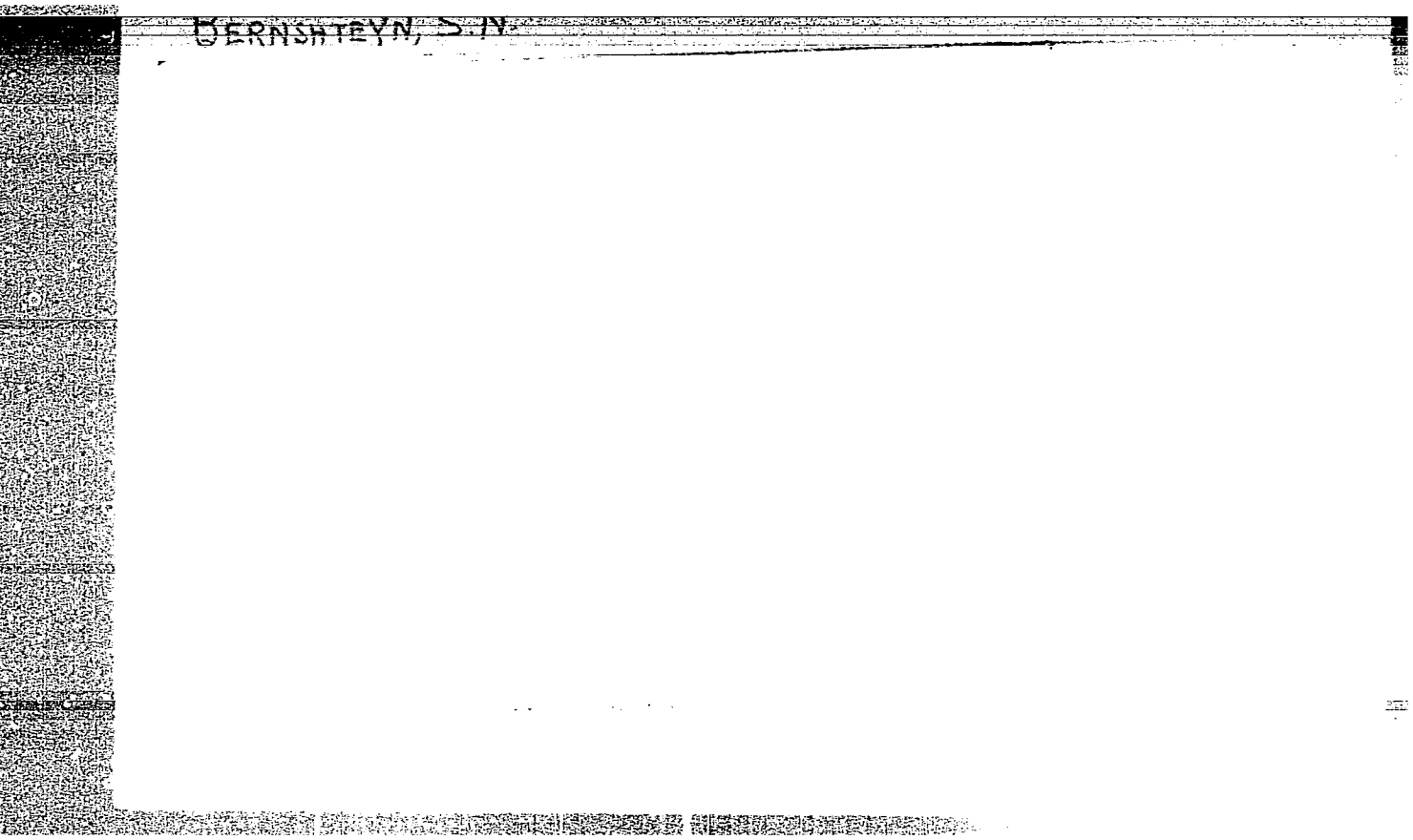
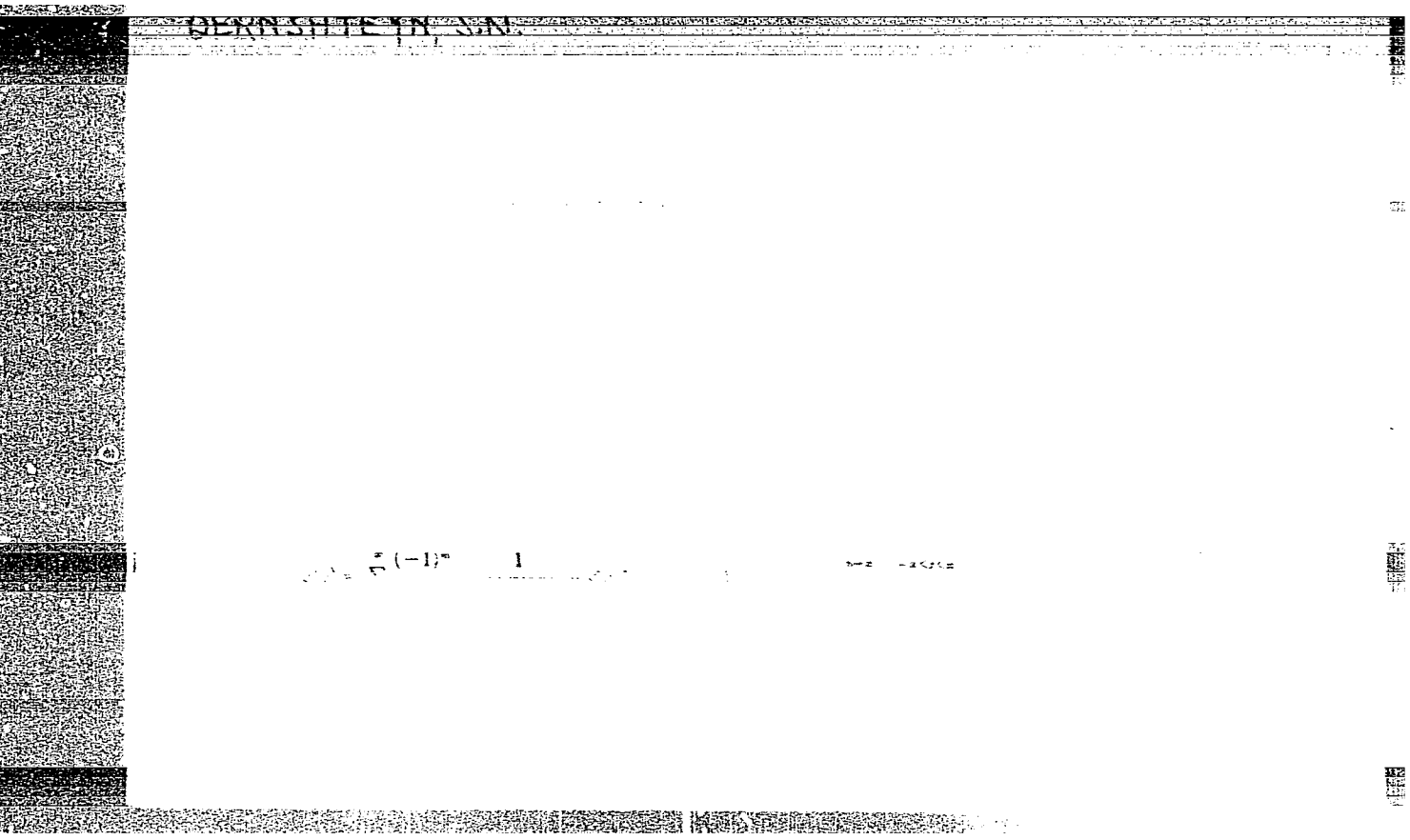




BERNSHTEYN, S. N.

PA-38T55

USSR/Mathematics - Series Nov 1947
Mathematics - Formulas

"Limiting Laws for Theory of Optimum Approximations," Academician S. N. Bernshteyn, 4 pp

"Dok Ak Nauk" Vol LVIII, No 4

Author has previously stated that the limiting law $\lim E_n(f(x)) \frac{p}{p \pm 0} = A_p \pm 0 f(x)$ can be applied to the function $f(x) (-\infty < x < \infty)$ if for all values of $p > 0$ there is a limited equality. This is a continuation of an article published in "Dok Ak Nauk" Vol LIV, No 6, 1946, in which he showed that the first formula can be used for all cases where the function $f(x)$

38T55

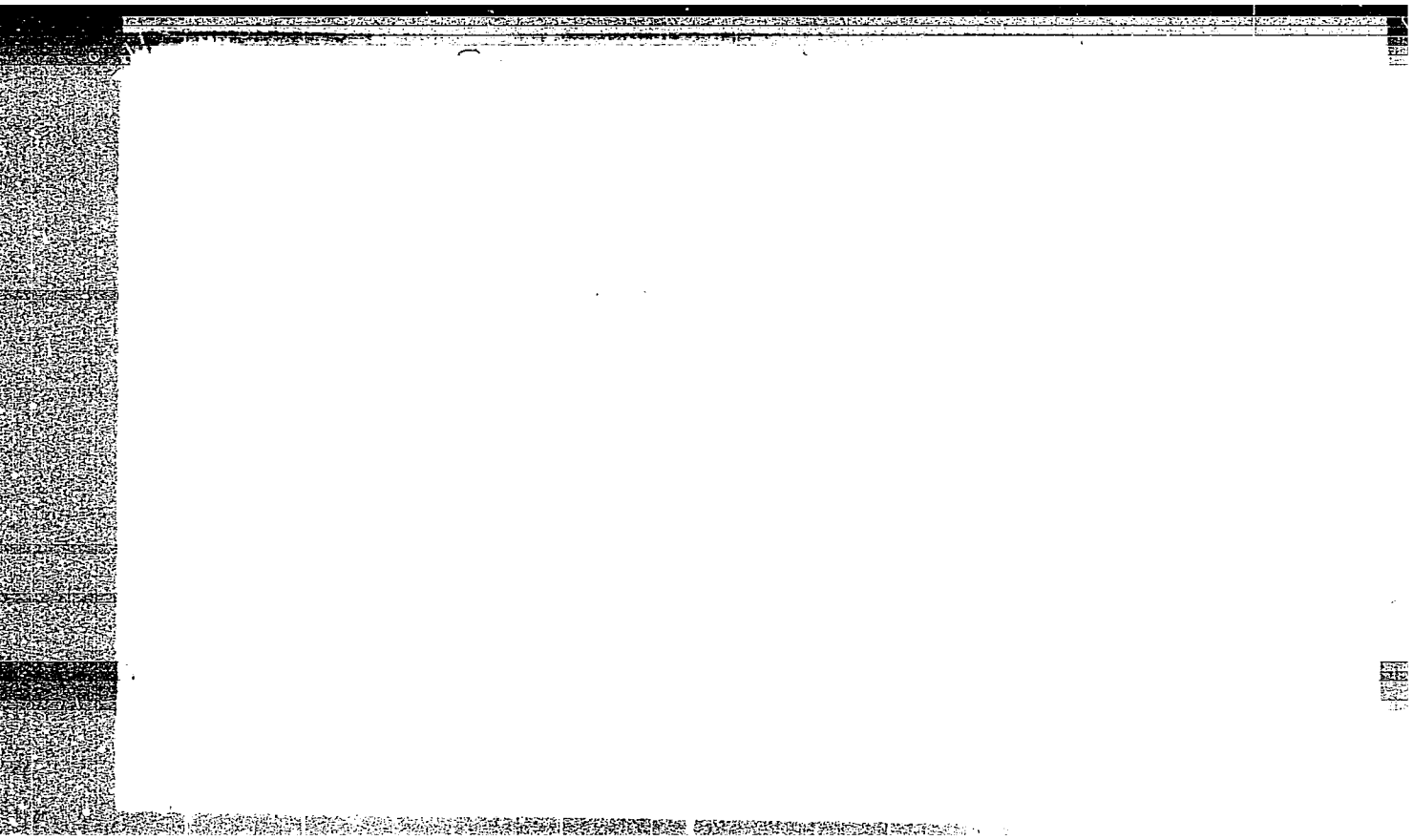
USSR/Mathematics - Series (Contd) Nov 1947

fulfills the requirement $|f(x)| < H(x) (-\infty < x < \infty)$, and where $H(x) = \sum_0^{\infty} a_\kappa x^{2\kappa}$ is a whole function of a zero series. Submitted 9 Nov 1947.

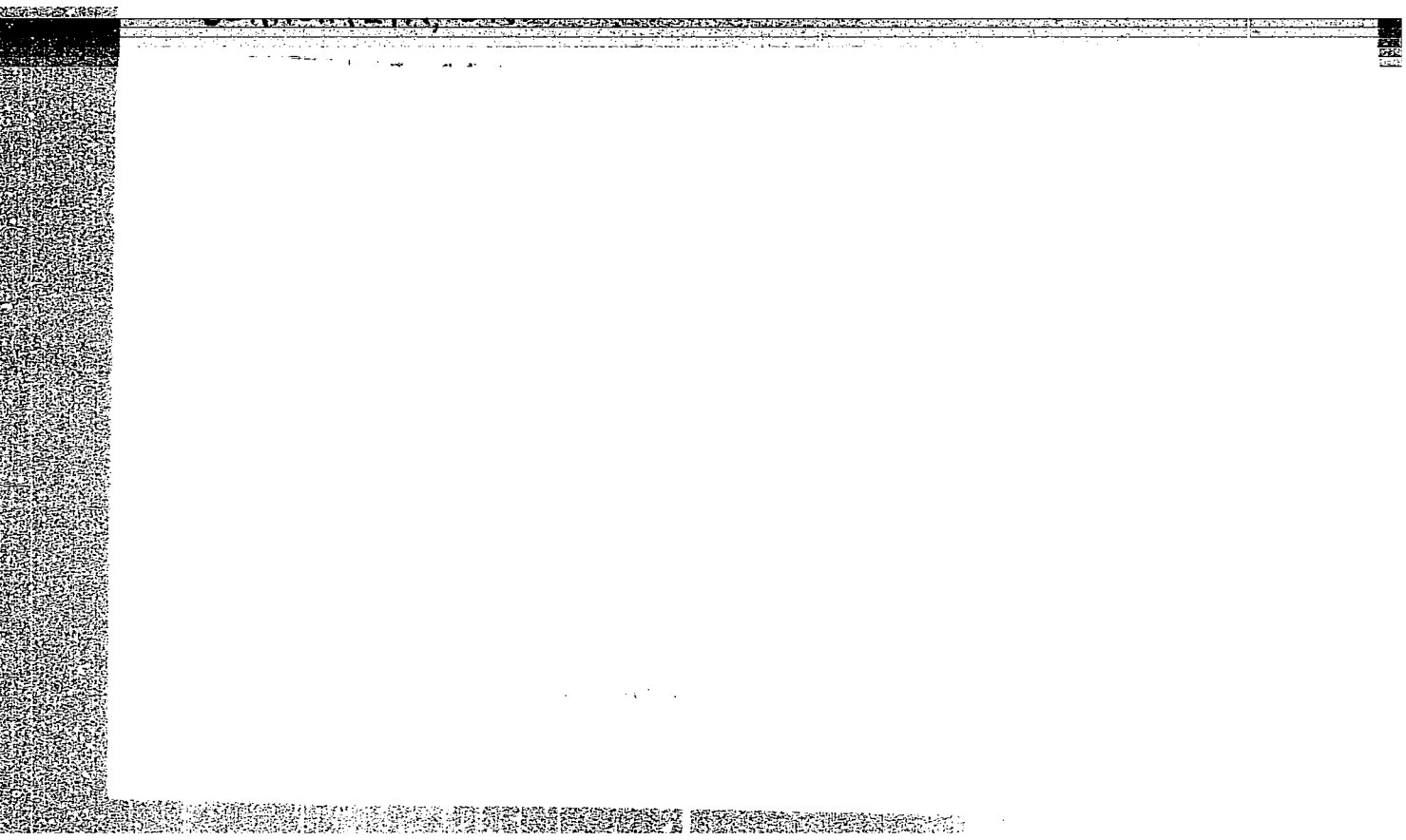
38T55

BERNSHTEYN, S. N.

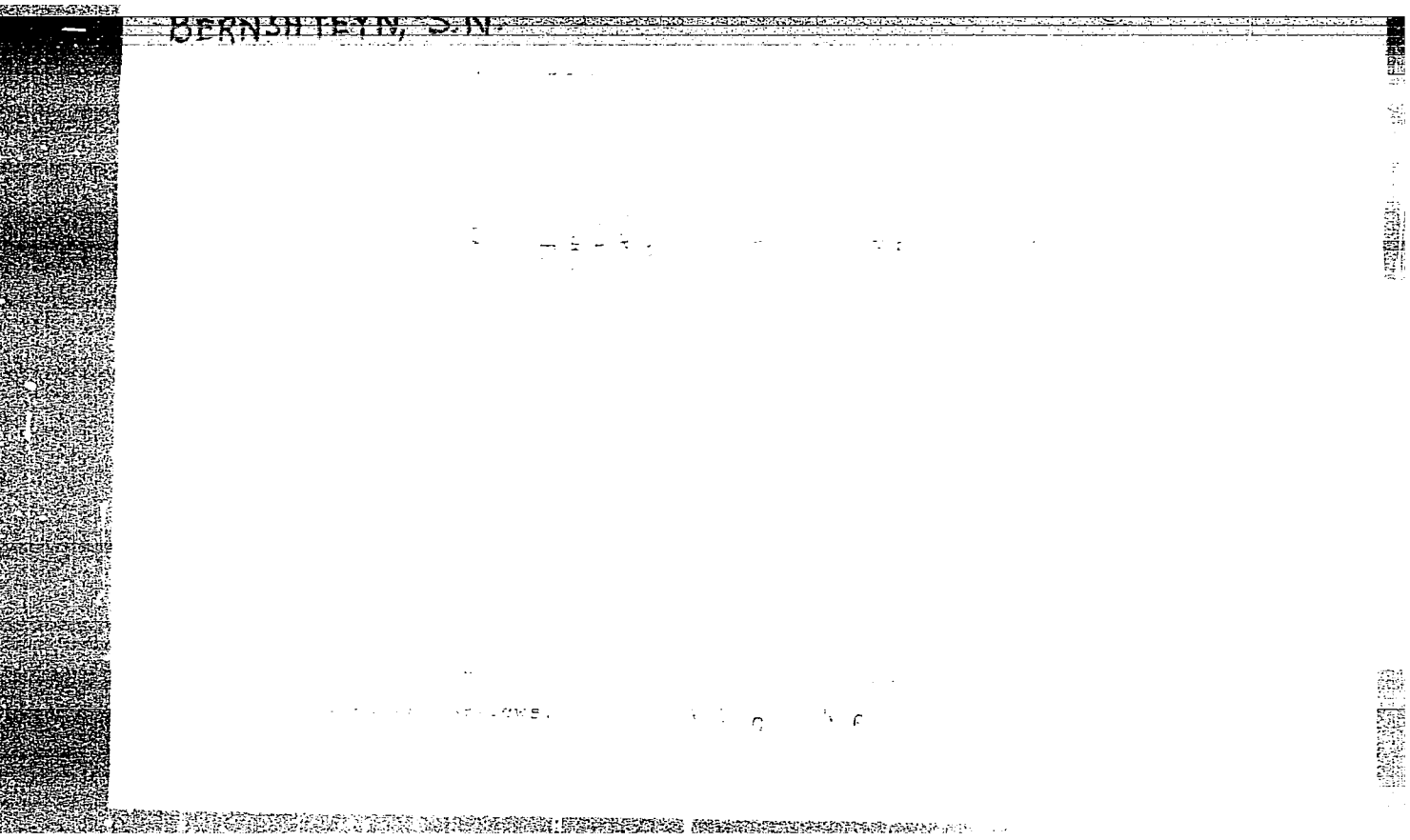
Strengthening the theorem on surfaces of a negative curvature.
Uch. zap. IGU no.96:75-81 '48. (MLRA 10:8)
(Surfaces)

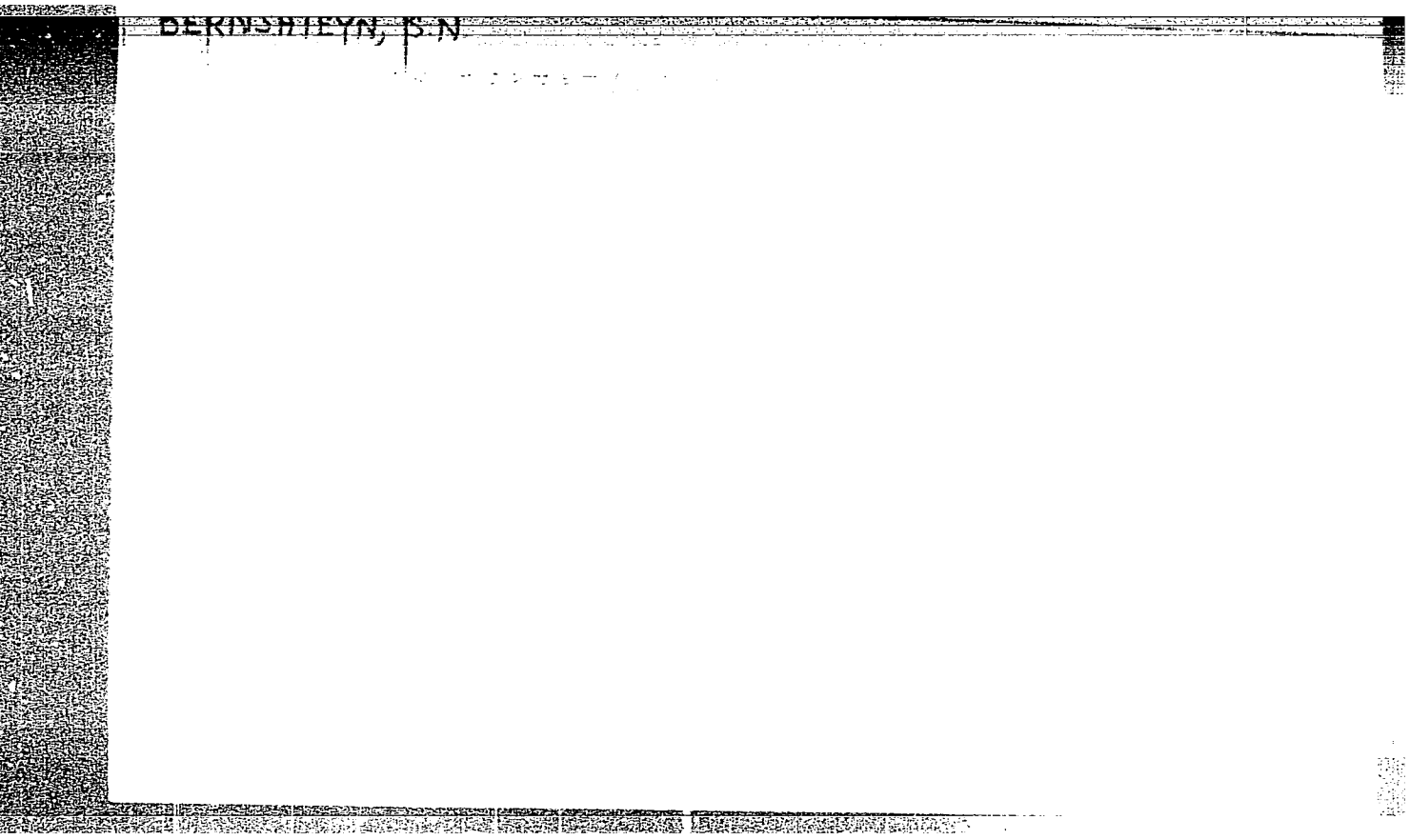


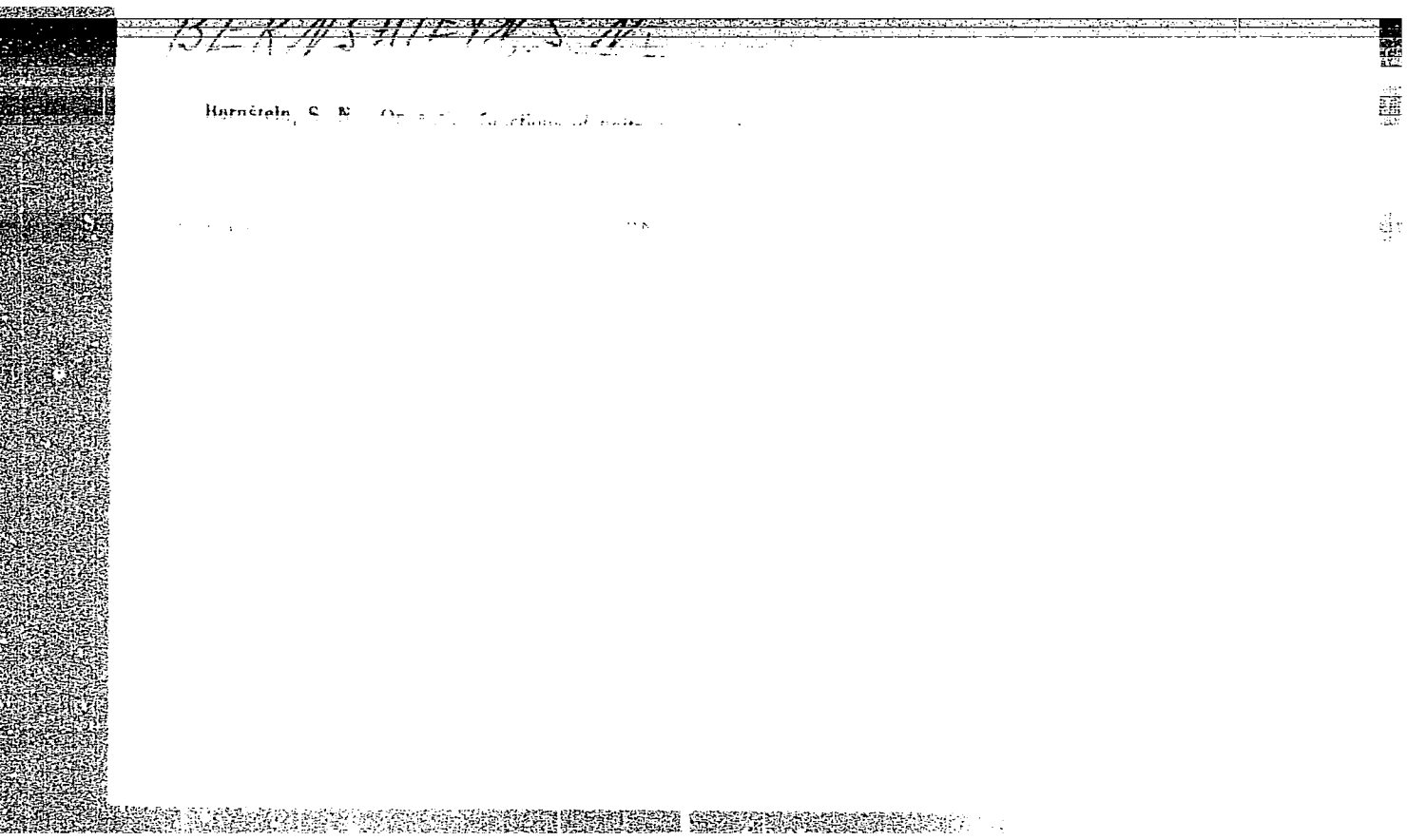
APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000205020010-1"

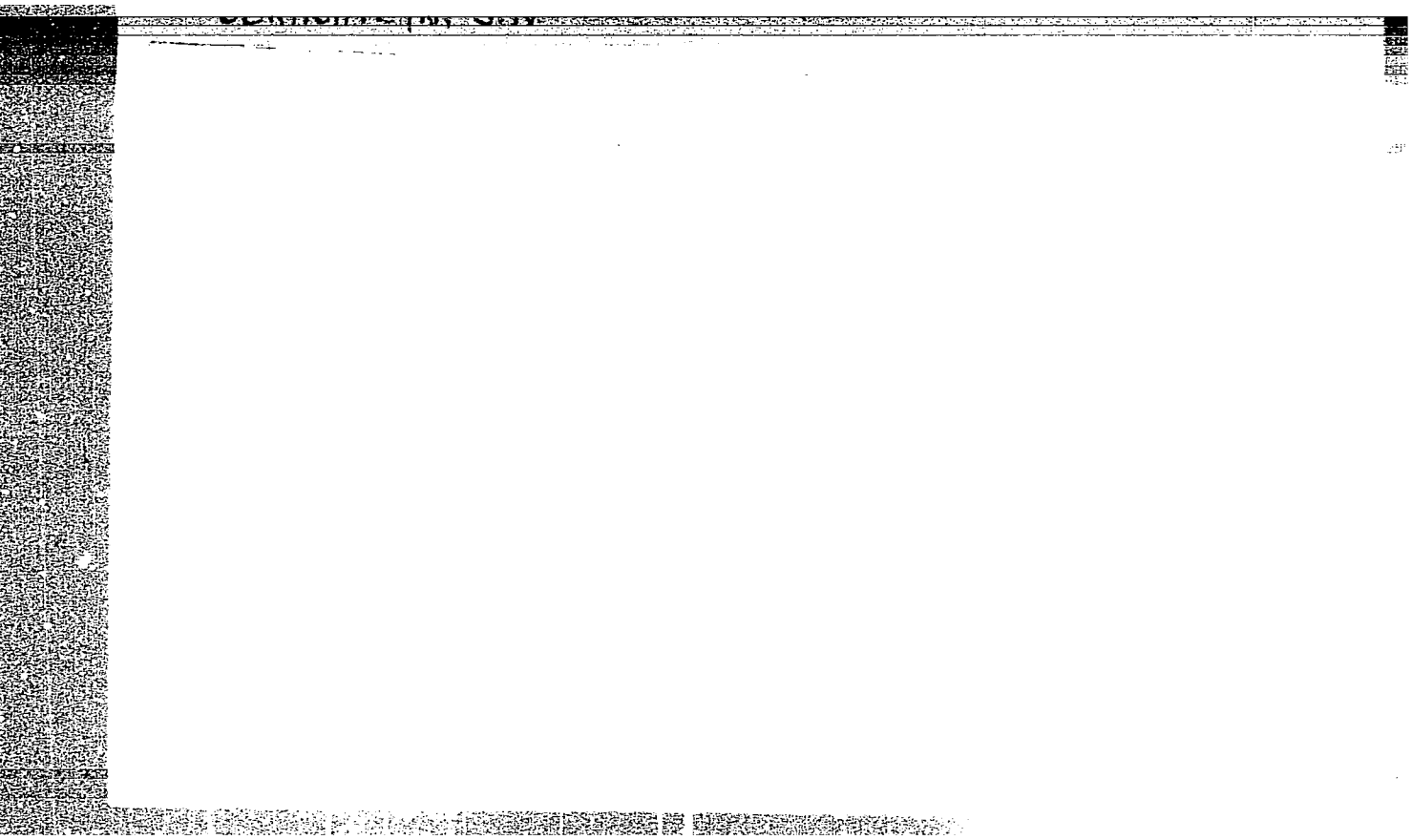


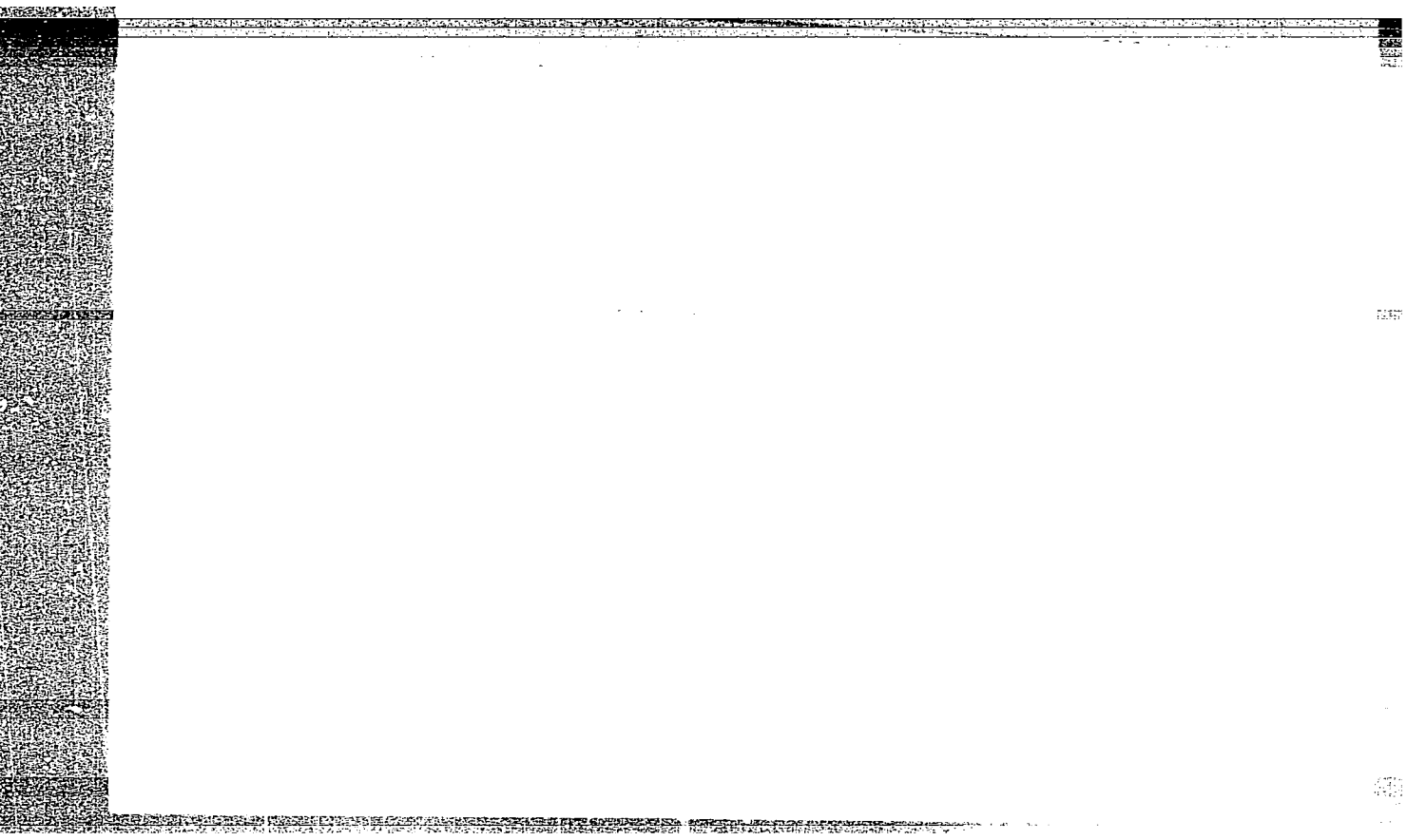
APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000205020010-1"



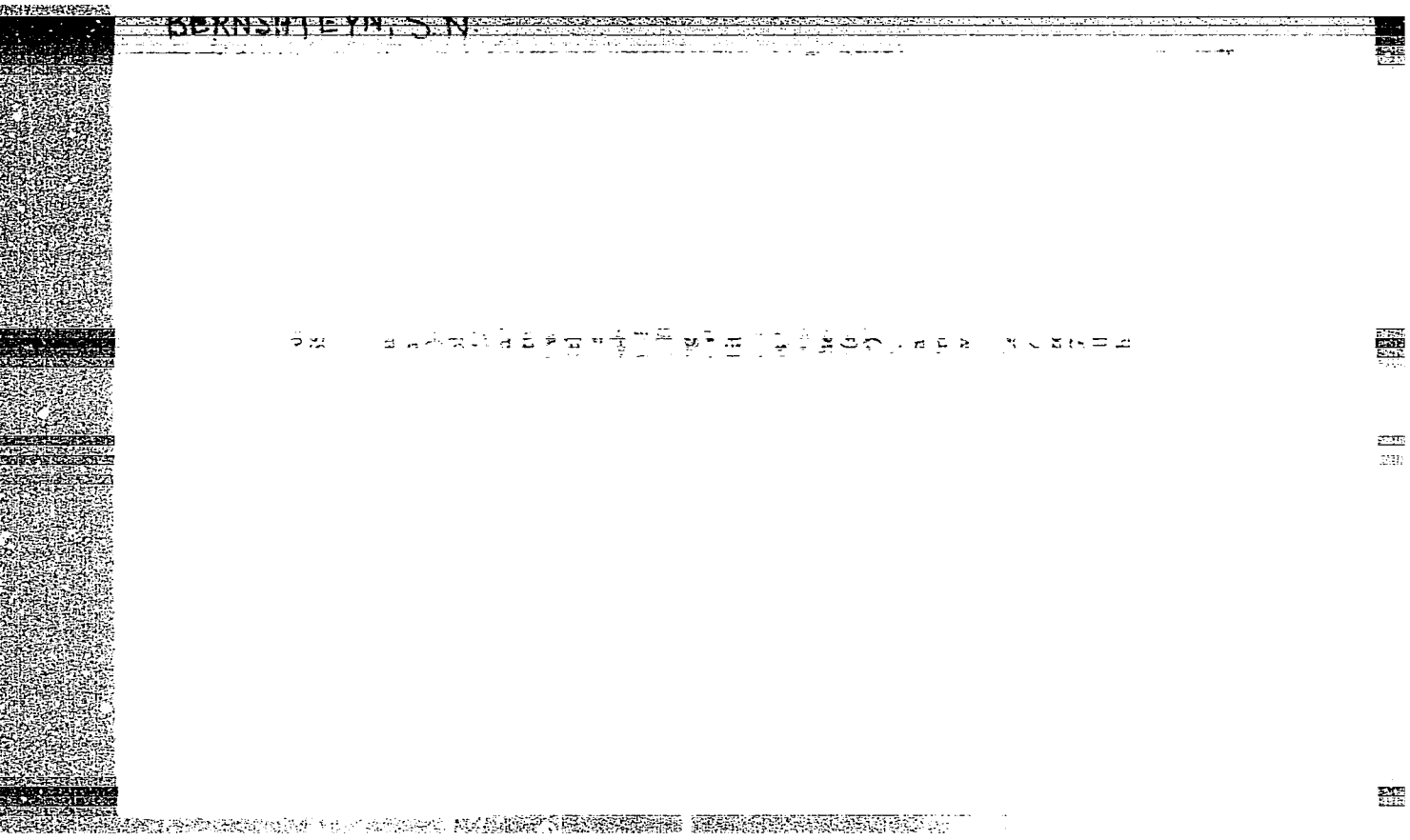


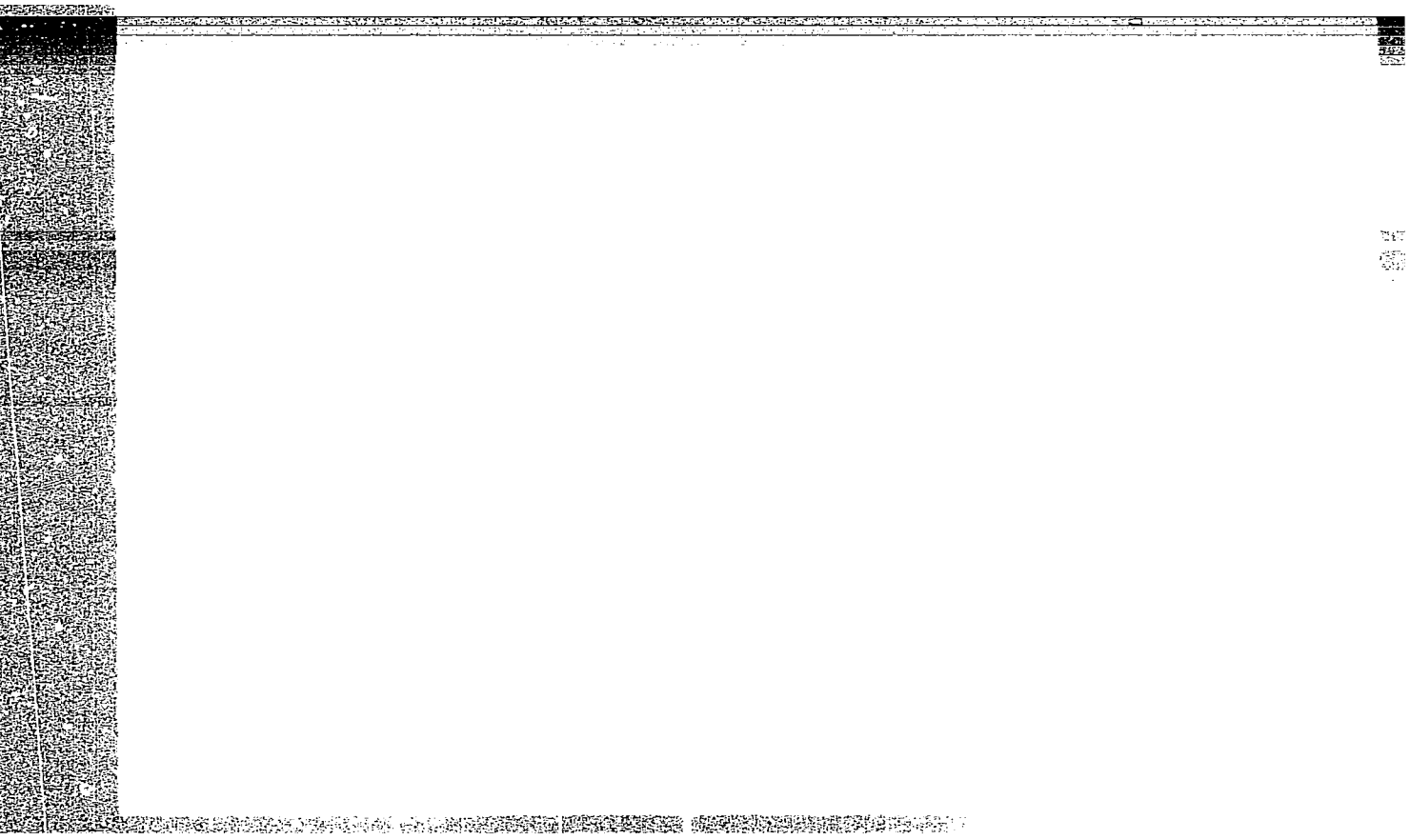




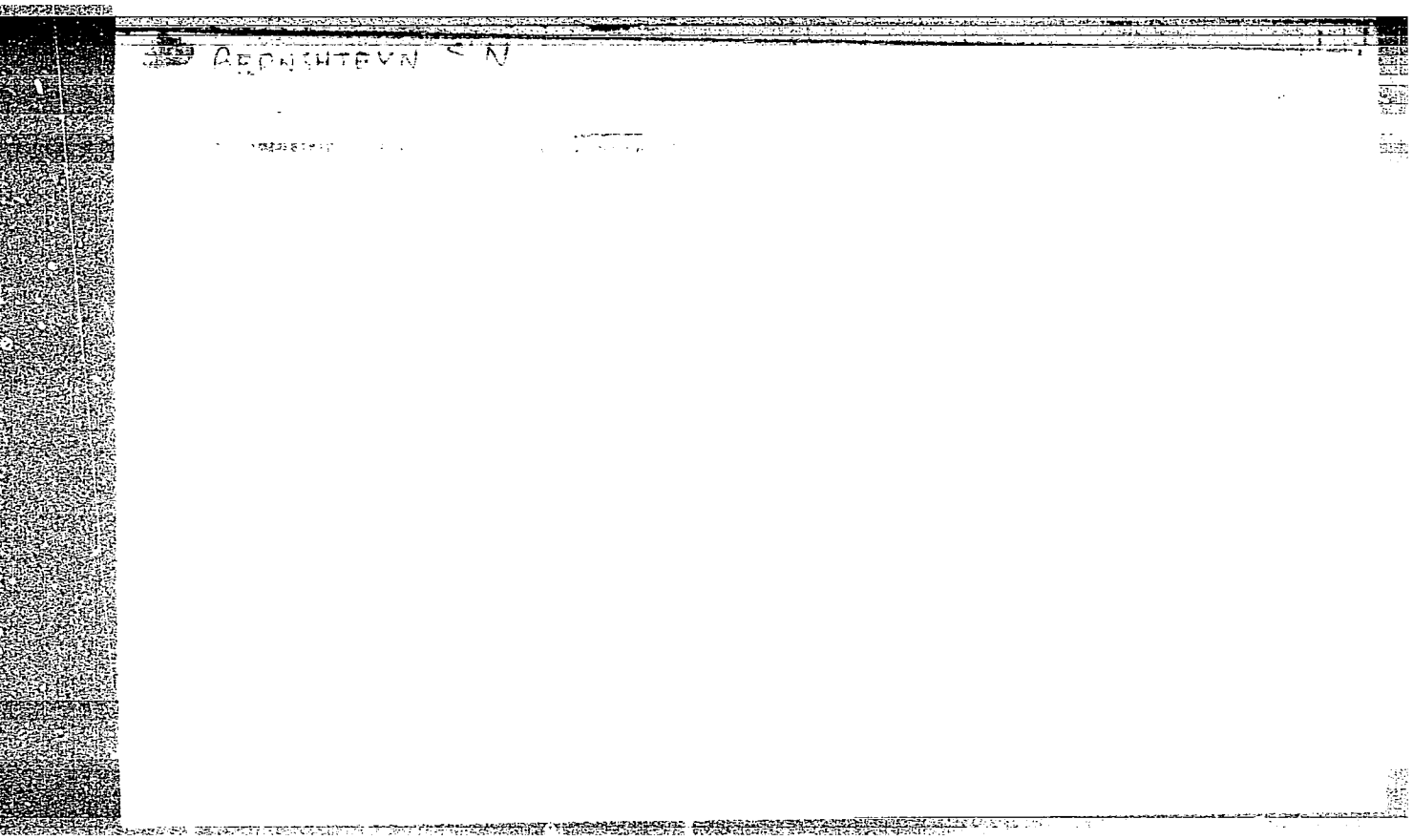


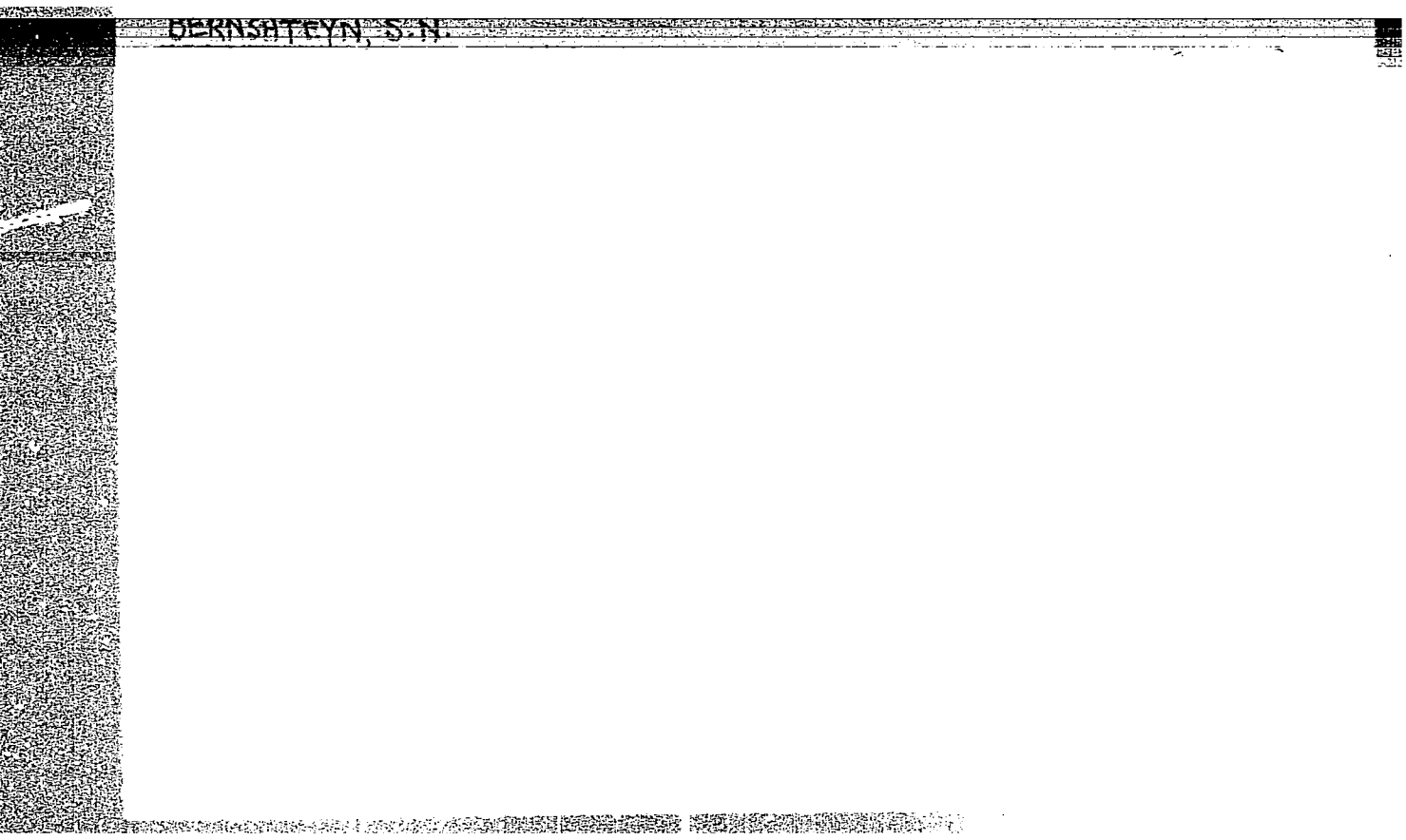
APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000205020010-1"

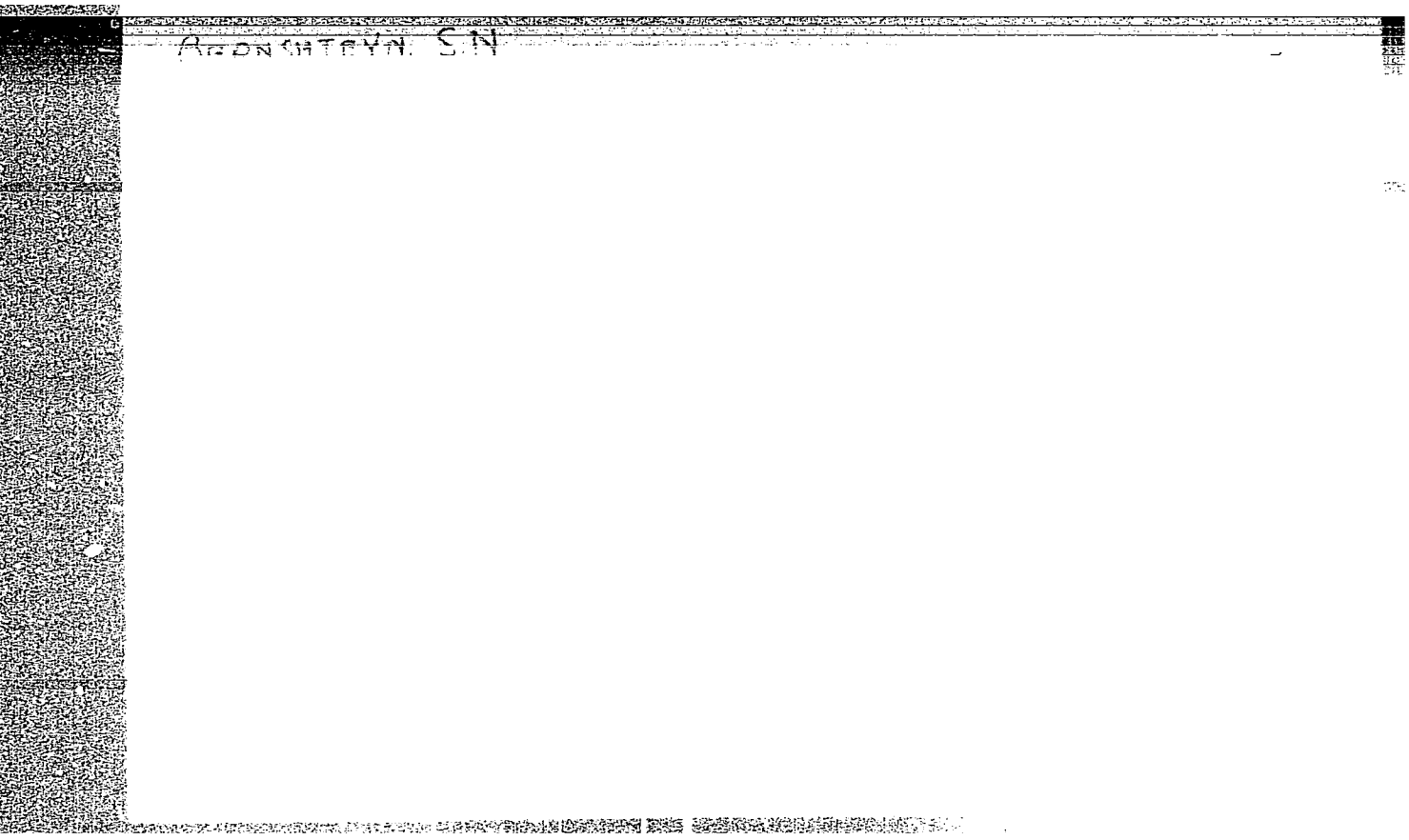


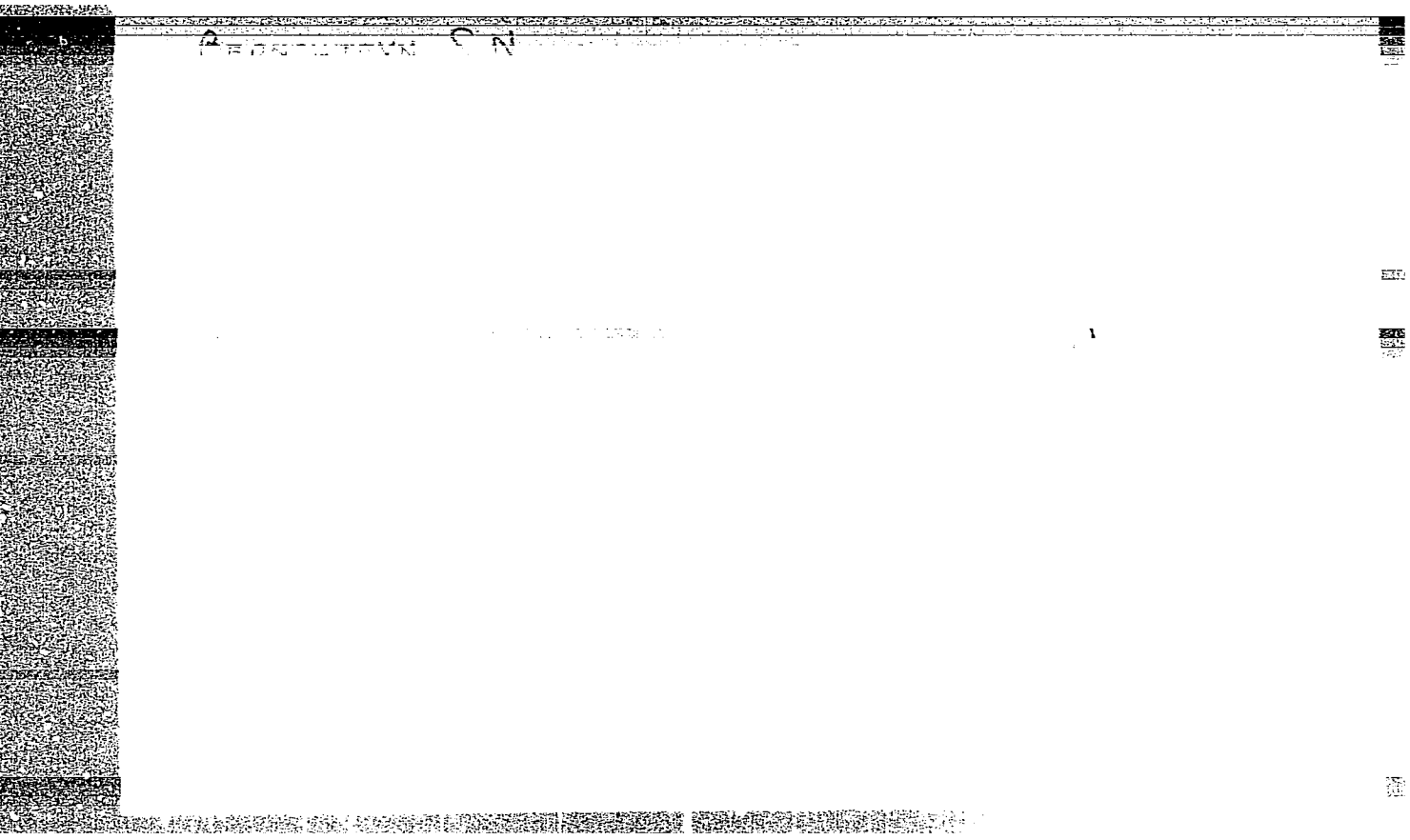


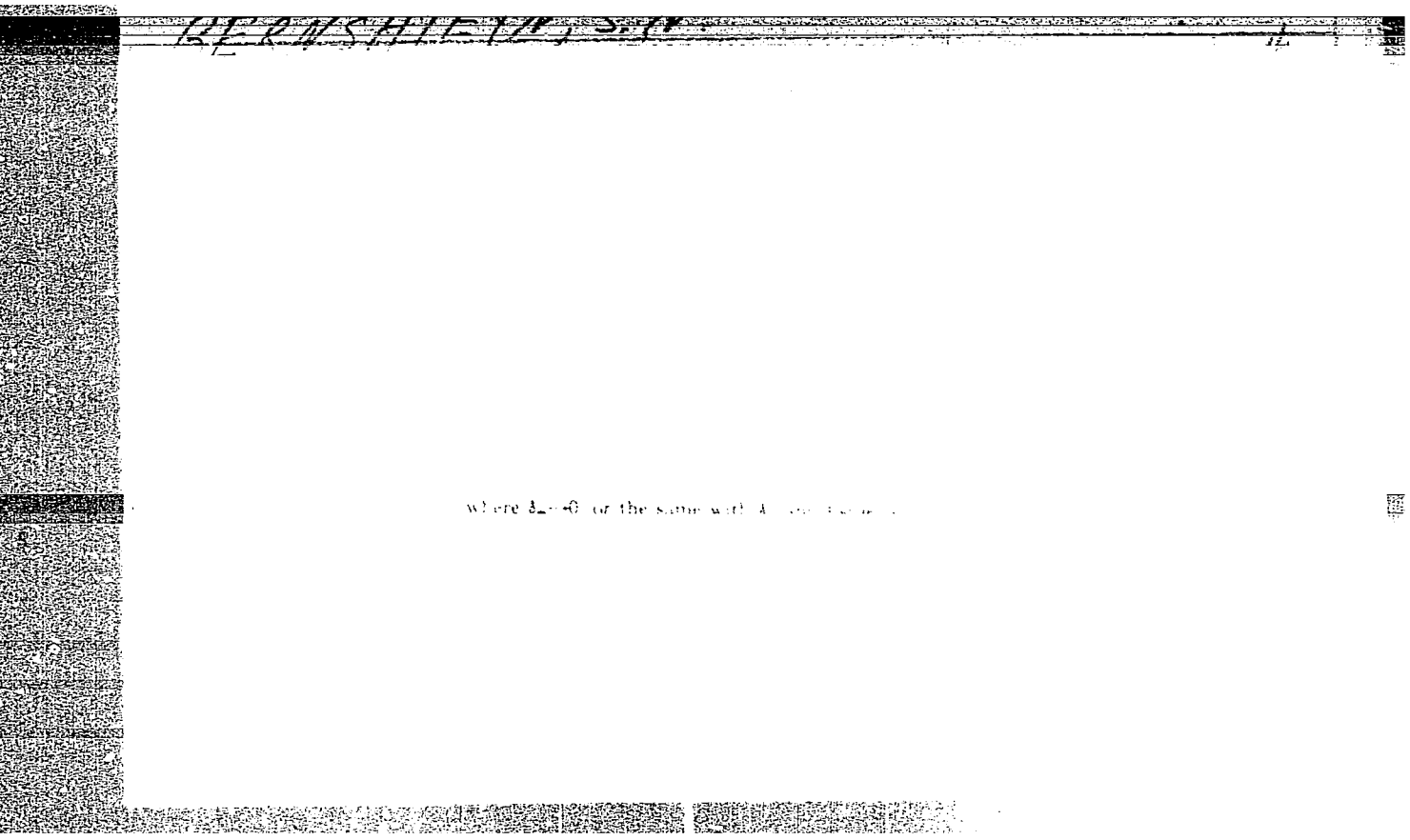
APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000205020010-1"







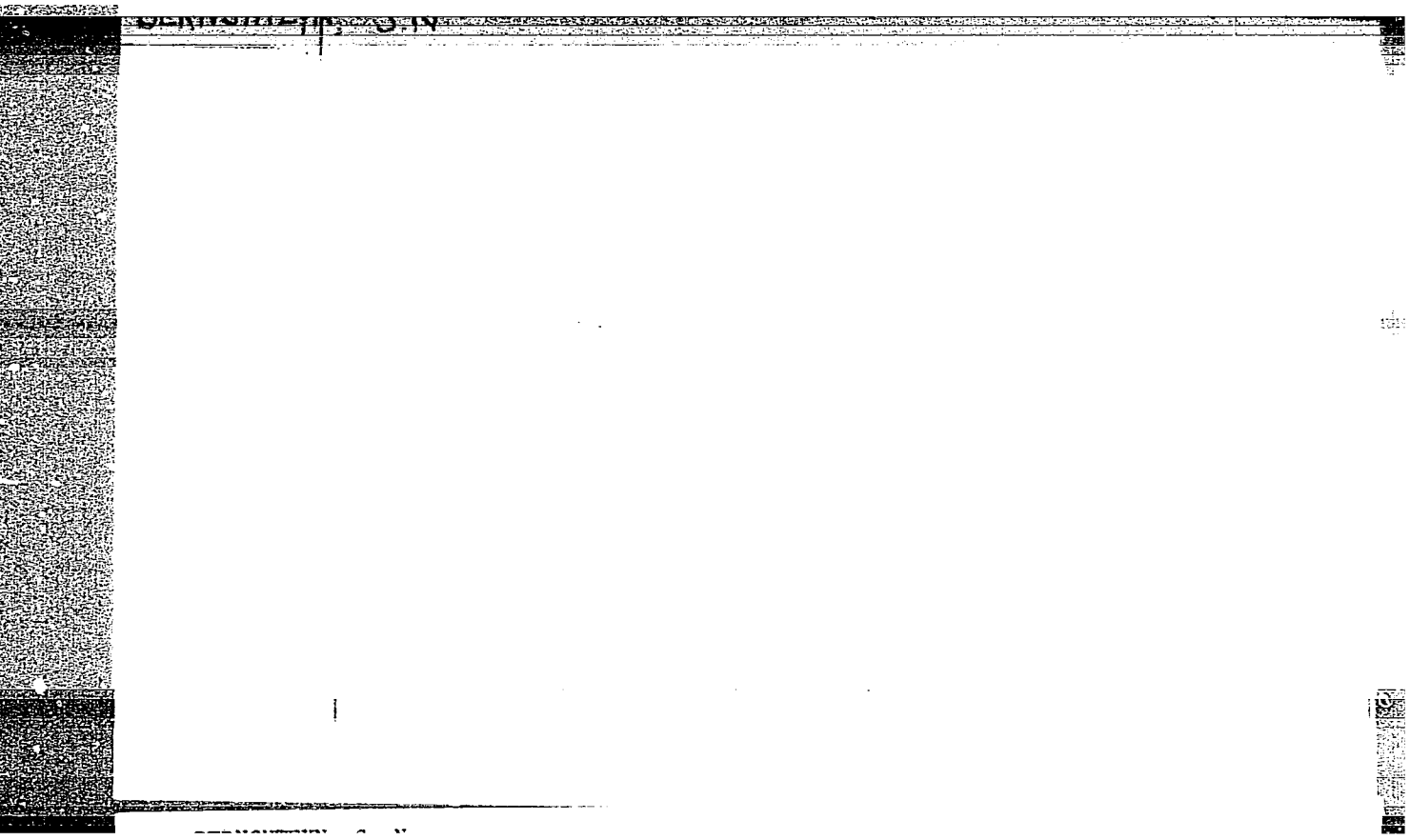




Mathematics.

Ind. Aero.

Bernstein, S. N. On Gravimetric Functions. Dokl. Akad. Nauk, 77, (4), 549-552, 1951.



BERNSHTEYN, S.N.

PHASE I TREASURE ISLAND BIBLIOGRAPHICAL REPORT AID 547 - I

Call No.: QA3.B5

BOOK
Author: BERNSHTEYN, S. N.
Full Title: COLLECTED WORKS, VOL. I. CONSTRUCTIVE THEORY OF FUNCTIONS (1905-1930)
Transliterated Title: Sobraniye sochineniy. Tom I. Konstruktivnaya teoriya funktsiy (1905-1930)

PUBLISHING DATA
Originating Agency: Academy of Sciences, U.S.S.R.
Publishing House: Academy of Sciences, U.S.S.R.
Date: 1952 No. pp.: 581 No. of copies: 3,000
Editorial Staff: Prof. N. I. Akhiyezer, Prof. V. L. Goncharov, Prof. A. N. Kolmogorov, Prof. S. M. Nikol'skiy and Prof. I. G. Petrovskiy; also Kand. of Physic.-Math. Sci. V. S. Videnskiy

PURPOSE: Not mentioned

TEXT DATA
Coverage: The volume contains 49 papers and articles (1905-1930) covering the constructive theory of functions and together with the second volume (62 items) [AID 495 - I] fully presents Bernshteyn's investigations in this field. The book contains also a large number of the author's remarks and explanations pertaining to his articles in the text (38 pages), and an

1/2

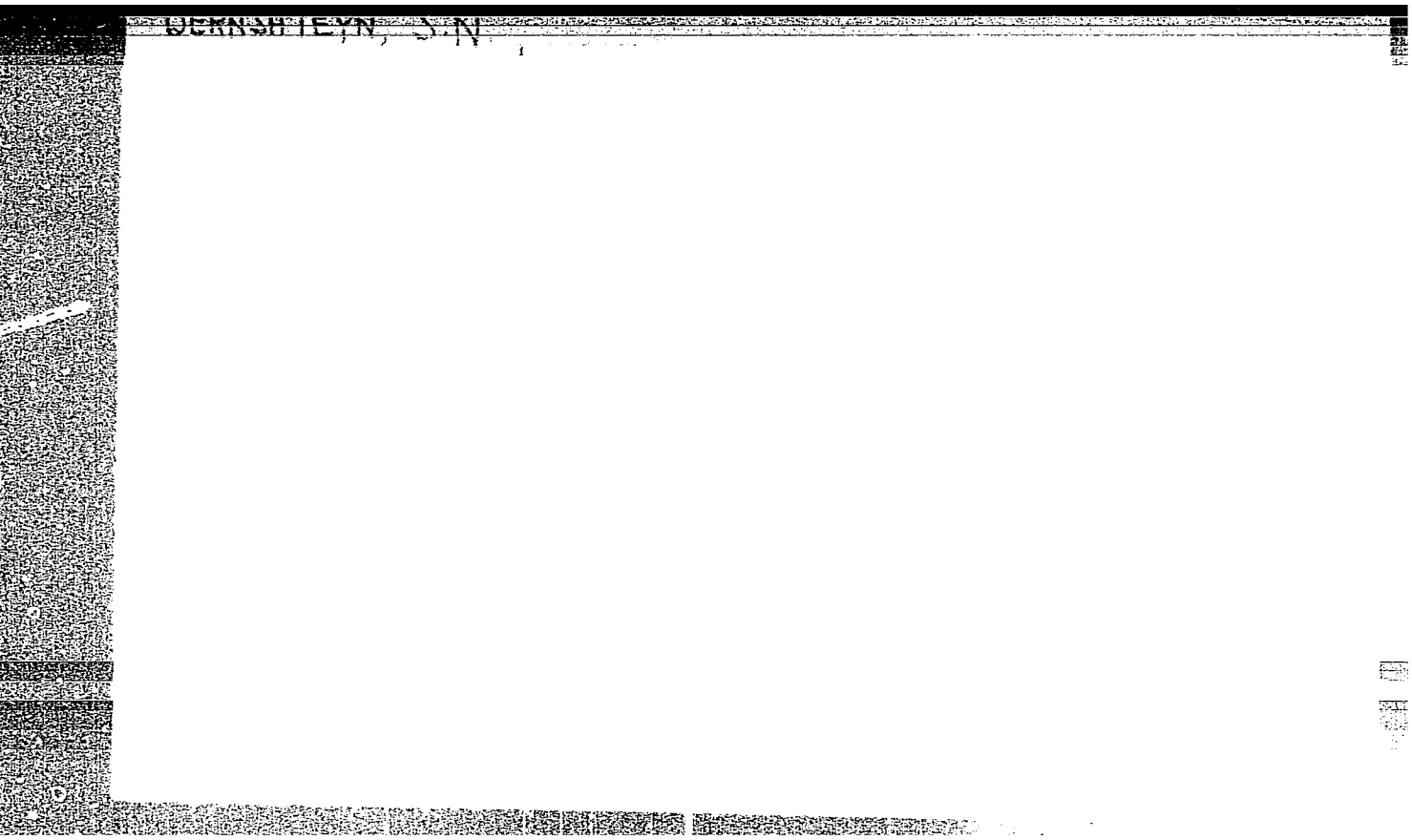
Sobraniye sochineniy. Tom I. Konstruktivnaya teoriya funktsiy (1905-1930) AID 547 - I

enumerated list of 265 of his works in chronological order from 1903 to 1952 on various subjects (12 pages), in Russian and non-Russian languages, with indication of the periodicals of publication. The 49 articles were previously published in a number of periodicals, mainly non-Russian.

No. of References: Very numerous in footnotes in the text.

Facilities: None

2/2



BERNSHTEYN, S. N.

PA 233T91

USSR/Mathematics - Antimajorants Nov/Dec 52

"Antimajorants," Acad S. N. Bernshteyn

"Iz Ak Nauk SSSR, Ser Matemat" Vol 16, No 6, pp 497-502

The article contains a demonstration and generalization of one theorem on antimajorants which was formulated earlier by the author (cf. "Majorants of Finite or Quasi-Finite Growth," "Dok Akad Nauk SSSR" Vol 65, 1949, pp 117-120). The name antimajorant (H(x) in set A) is given to each function $H(x) \geq 0 (-\infty < x < \infty)$ possessing the property that the inequality of the form $/G_p(x) \leq H(x)$ for all x, where $\sup /G_p' / > N$ on any interval /a, b/.

233T91

~~BERNSTEIN~~, S. N.
BERNSHTEYN, S. N.

Bernštein, S. N. On normally increasing weight functions and majorants of finite growth. Doklady Akad. Nauk SSSR (N.S.) **85**, 257–260 (1952). (Russian)

The author correlates a number of his recent results on weighted polynomial approximation and on inequalities for entire functions [same Doklady (N.S.) **65**, 117–120; **66**, 545–548 (1949); **77**, 549–552, 773–776 (1951); these Rev. **11**, 23; **12**, 814; **13**, 26] and one of Videnskiĭ's [see the preceding review]. In particular, even functions $\Phi(x)$ of N [normal increase: see the third reference cited above] are either in class N_1, majorizing on the real axis some even entire $F_1(z)$ with positive coefficients in its power series and not of genus zero; or in class N_0, majorized on the real axis by $F_0(z)$ of the same kind as $F_1(z)$ but of genus zero. The author then considers the class N^* of functions $\Phi(x)$ of N which belong to N_0 for $x>0$ and to N_1 for $x<0$ (in terms of an equivalent definition of these classes: $\int_1^\infty x^{-2}\log\Phi(|x|)d|x|$ converges for $x>0$ and diverges for $x<0$). He proves the following theorem. If $\int_1^\infty x^{-2}\log\Phi(x^2)dx<\infty$, or equivalently $\Phi(x)<c\prod_{n=1}^{\infty}(1+x/\beta_n^2)$, $c>0$, $\beta_n>0$, $\sum 1/\beta_n<\infty$, $0<x<\infty$; if $H_p(x)$ is what the author has called a function of finite semidegree [Izvestiya Akad. Nauk SSSR. Ser. Mat. **13**, 111–124 (1949); these Rev. **11**, 22], i.e., $H_p(z^2)$ is an even function of exponential type p; and if $|H_p(x)|\leqq\Phi(x)$, $-\infty<x<\infty$, then

$$|H_p(x)|<2c\exp\{p|x|^{\frac{1}{2}}\}\prod_{n=1}^{\infty}(1+|x|/\beta_n^2),\quad -\infty<x<\infty,$$

irrespective of what $\Phi(x)$ is for $x<0$. *R. P. Boas, Jr.*

[illegible] MATHEMATICAL REVIEWS (Undated [illegible])
Vol XIV No 2, Feb 1953 pp 121-232

LEVITAN, B.M.; BERNSHTEYN, S.N., akademik.

Asymptotic behavior of the spectral function of a self-conjugate differential equation of the second order, and expansion into eigenfunctions. Izv. AN SSSR Ser.mat. 17 no.4:331-364 Jl-Ag '53. (MLRA 6:7)
(Differential equations) (Eigenfunctions)

LEVITAN, B.M.; BERNSHTEYN, S.N., akademik.

Spectral function for the equation $y'' + \{\lambda - q(x)\}y = 0$. Izv.AN SSSR Ser.mat. 17 no.5:473-484 S-O '53. (MLRA 6:10)

1. Akademiya nauk SSSR (for Bernshteyn). (Functions)

BERNSHTEYN, S. N.

USSR/Mathematics - Weighted Function 1 Feb 53

"The Necessary and Sufficient Condition for an Even Non-Decreasing Function to be a Weighted Function," Acad S. N. Bernshteyn

DAN SSSR, Vol 88, No 4, pp 589-592

Demonstrates that the condition necessary and sufficient that an even non-decreasing function $F(x)\geq 0$ $(-\infty<x<\infty)$ be weighted is that the upper bound of the following sums be infinite: $\frac{1}{2}(a_{km}+b_{km})$, where $a_{km}+b_{km}\geq 0$, $a_{km}+b_{km}>0$), $\frac{1}{2}(a_{km}+b_{km}) = 1/M_n(b_{km}\geq 0$, taken $a_{km}+ib_{km}$ are the roots of arbitrarily even polynomials $R_n(x)$ of any degree n satisfying the condition $R_n(x)\leq F(x)$ (which are normed by some condition $R_n(0)\geq cF(0)$, $0<c\leq 1$). Received 10 Dec 52.

249T39

249T39

BERNSHTEYN, S.N. (Acad.)

USSR/Mathematics - Approximations 1 Jun 53

"Conditions Necessary and Sufficient for an Almost Increasing Even Function to Be Weakly Weighted," Acad S. N. Bernshteyn

DAN SSSR, Vol 90, No 4, pp 487-490

For explanation of "increasing" and "weighted," see author's previous work (IAN SSSR, Ser Matem. 16. 497 (1952)). A function $F(x) \geq 0$ (in V) $(-\infty < x < \infty)$ is called weakly weighted if one can construct a sequence of integral functions $G_{p,n}(x)$ of degree p such that $/(G_{p,n}(x)-f(x))/F(x)/=0$ $(\lim n \to \infty)$, where

254T87

p is any number $p \geq 0$ and $f(x)$ ($f(\pm\infty)=0$) is any continuous function. Article to be continued.

BERNSHTEYN, S.N.

Mathematical Reviews
Vol. 15 No. 1
Jan. 1954
Analysis

1-13-54
LL

Bernšteĭn, S. N. Weak weight functions and majorants. Doklady Akad. Nauk SSSR (N.S.) 90, 703–706 (1953). (Russian)

The author continues the paper reviewed above. In the terminology of his earlier papers [references in the preceding review], he shows that an even positive function $\Phi(x)$, increasing for $x>0$, is a weak weight function if and only if the supremum of $\int_{-\infty}^{\infty} x^{-2} \log |G_p(x)/G_p(0)|\,dx$ is infinite, where the supremum is taken over all entire $G_p(x)$ of given exponential type p and even modulus $|G_p(x)| \leq \Phi(x)$. A function $\Phi(x)$ as above is either a weak weight function or a majorant of quasi-finite growth; it is also either a weight function or a majorant of quasi-finite growth with respect to polynomials. Several other corollaries are given. In particular, if $F(x)$ is measurable and $F(x)>c>0$, the condition $\int_{-\infty}^{\infty} (1+x^2)^{-1} \log F(x)dx < \infty$ is sufficient for $F(x)$ to be a majorant of finite growth, and hence necessary for $F(x)$ to be a weak weight function or a weight function.

R. P. Boas, Jr. (Evanston, Ill.).

AMANOV, T.I.; BERNSHTEYN, S.N.; akademik.

Generalization of one result of S.M. Nikol'skii. Dokl. AN SSSR 90 no. 6:949-952 Je '53. (MLRA 6:6)

1. Matematicheskiy institut im. V.A.Steklova Akademii nauk SSSR (for Amanov). 2. Akademiya nauk SSSR (for Bernshteyn).
(Differential equations, Partial)

ZYUZ'KO, M.P.; BERNSHTEYN, S.N., akademik.

Spectral properties of the operator $-\Delta u+cu$ in an unbounded space with an arbitrary number of dimensions. Dokl. AN SSSR 90 no.6:957-959 Je '53. (MLRA 6:6)

1. Khar'kovskiy gosudarstvennyy universitet (for Zyuz'ko). 2. Akademiya nauk SSSR (for Bernshteyn). (Spaces, Generalized)

INOZEMTSEV, O.I.; BERNSHTEYN, S.N., akademik.

Theory of the best approximation for functions of several variables with the aid of entire functions of finite order. Dokl. AN SSSR 91 no.1:15-18 Jl '53. (MLRA 6:6)

1. Khar'kovskiy politekhnicheskiy institut im. V.I.Lenina. 2. Akademiya nauk SSSR (for Bernshteyn). (Functions)

BABAKOVA, O.I.; BERNSHTEYN, S.N., akademik.

On a generalization of trigonometrically conjugate series. Dokl.AN SSSR. 91 no.6:1241-1244 Ag '53. (MLRA 6:8)

1. Akademiya nauk SSSR (for Bernshteyn). 2. Khar'kovskiy politekhnicheskiy institut im. V.I.Lenina. (Series)

BLOKH, A.Sh.; BERNSHTEYN, S.N., akademik.

Determination of a differential equation according to its particular matrix-function. Dokl.AN SSSR 92 no.2:209-212 S '53. (MLRA 6:9)

1. Akademiya nauk SSSR (for Bernshteyn). 2. Molodechnenskiy uchitel'skiy institut g. Molodechno, Belorusskoy SSR (for Blokh).
(Differential equations)

VIDENSKIY, V.S.; BERNSHTEYN, S.N., akademik.

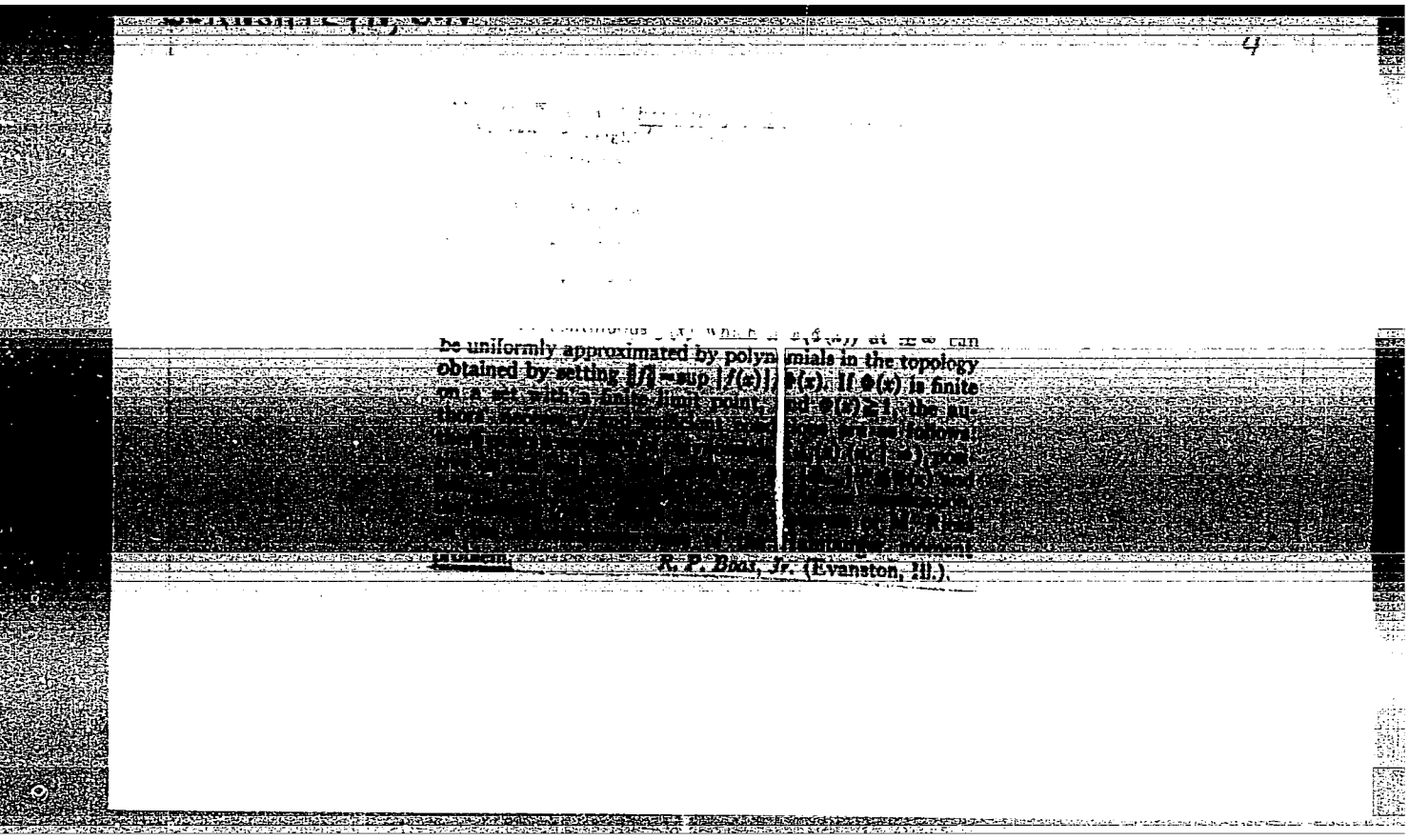
Weighted approximation on a real axis. Dokl.AN SSSR 92 no.2:217-220 S '53. (MLRA 6:9)

1. Akademiya nauk SSSR (for Bernshteyn). (Aggregates)

OGIYEVETSKIY, I.Ye.; BERNSHTEYN, S.N., akademik.

Comparability of summation methods of Abel and (C, α, β). Dokl.AN SSSR 92 no.2:231-234 S '53. (MLRA 6:9)

1. Akademiya nauk SSSR (for Bernshteyn). 2. Dnepropetrovskiy institut inzhenerov transporta im. L.M.Kaganovicha (for Ogiyevetskiy). (Series)



be uniformly approximated by polyn mials in the topology
obtained by setting $\|f\| = \sup_x |f(x)|$ $\Phi(x)$. If $\Phi(x)$ is finite
and $\Phi(x) \geq 1$, the set

R. P. Boas, Jr. (Evanston, Ill.).

BERNSHTEYN, S.N., akademik; OBRESHKOV, N., deystvitel'nyy chlen.

Solutions of certain particular integral equations. Dokl.AN SSSR 92 no.6: 1117-1120 O '53. (MLRA 6:10)

1. Bolgarskaya Akademiya nauk (for Obreshkov). 2. Akademiya nauk SSSR (for Bernshteyn). 3. Matematicheskiy institut Bolgarskiy Akademii nauk (for Obreshkov). (Integral equations)

BERNSHTEYN, S. N.

PHASE I TREASURE ISLAND BIBLIOGRAPHICAL REPORT AID 495 - I

BOOK Call No.: AF625986

Author: BERNSHTEYN, S. N.
Full Title: COLLECTED WORKS. VOL. II. CONSTRUCTIVE THEORY OF FUNCTIONS
Transliterated Title: Sobraniye sochineniy. Tom II. Konstructivnaya teoriya funktsiy

PUBLISHING DATA

Originating Agency: Academy of Sciences, USSR
Publishing House: Academy of Sciences, USSR
Date: 1954 No. pp.; 627 No. of copies: 3,000
Editorial Staff: Prof. N. I. Akhiyezer, Prof. V. L. Goncharov, Prof. A. N. Kolmogorov and Prof. I. G. Petrovsky; also Kand. of Physic.-Math. Sci. V. S. Videnskiy.

PURPOSE: Not mentioned

TEXT DATA

Coverage: The volume contains 62 papers and articles (1931-1953) covering the constructive theory of functions and together with the first volume (50 articles) completes Bernshteyn's investigations in this field, more or less fully, as he states in the preface. The book contains also 15 additional explanatory remarks and 2 small extracts from the author's monograph Extremal Properties of Polynomials (1937). A large range of diverse special functions and of

Sobraniye sochineniy. Tom II.
Konstructivnaya teoriya funktsiy

AID 495 - I

their pure mathematical and theoretical properties is presented. All 62 articles have previously been published in the Doklady and Izvestiya of the Academy of Sciences, USSR, Journ. Math. pure et appl., Math. Ann. and other periodicals. Many have been translated into foreign languages, especially French.

No. of References: Numerous in footnotes and at the end of every article. Great majority refer to the author's own works and to other Russian authors, very few are non-Russian.

Facilities: None

BERNSHTEYN, S.N. (Kiyev).

Practical problems in lessons of trigonometry. Mat. v shkole no.1:57-60 Ja-F '55. (MLRA 8:2)
(Trigonometry--Problems, exercises, etc.)

BERNSHTEYN, S.N.

SUBJECT USSR/MATHEMATICS/Theory of approximations CARD 1/2 PG - 30
AUTHOR BERNSTEJN S.N.
TITLE An application of the limit theorem of the theory of the best approximation.
PERIODICAL Doklady Akad. Nauk 102, 435-436 (1955)
reviewed 5/1956

Let $H(x)$ be an entire transcendent even function of genus zero which increases monotonely with $|x|$, where $H(0)>0$. The author proves the theorem: If there exists an infinite sequence of values n for which

$$|f^{(n)}(x)| \leqslant p^n H(x) \qquad (-\infty<x<+\infty),$$

where p is fixed, then $f(x)$ is an entire function of degree $\leqslant p$. For the proof the lemma is given: If n and $m>n$ are integers and if $f(x)$ has an n-th derivative on $(-1, +1)$ which satisfies the inequation $|f^{(n)}(x)| \leqslant M$ for $-1<x<+1$, then

$$E_m\left[f(x);1\right] < \frac{CM}{(m-n)^n},$$

where C is an absolute constant. Here $E_m\left[f(x);1\right]$ denotes the best approximation of $f(x)$ on the interval $(-1, +1)$ by a polynomial of m-th degree. Furthermore the author uses an older own result (Doklady Akad. Nauk 54, 479

(1946)): If $|f(x)| \leq H(x)$ $(-\infty < x < +\infty)$ and $H(x)$ satisfies the above conditions, then

$$A_q f(x) = \lim E_m \left[f(x); \frac{m}{q} \right] \qquad q > 0$$

with a possible exception of an at most countable set of q-values.

BERNSHTEYN, Sergey Natanovich, akademik; AKHIYEZER, N.I., redaktor; CHERNYSHENKO, Ya.T., tekhnicheskiy redaktor

[Analytical nature of solutions of elliptical differential equations] Analiticheskaia priroda reshenii differentsial'nykh uravnenii ellipticheskogo tipa. Red. i kommentarii N.I. Akhiezera. Khar'kov, Izd-vo Khar'kovskogo gos. univ. im. A.M. Gor'kogo, 1956. 93 p. (MLRA 10:5)
(Differential equations, Partial)

16(1)

AUTHOR: Bernshteyn,S.N.,Academician SOV/20-124-4- 67

TITLE: On Some A-Priori Estimations in the Generalized Dirichlet Problem (O nekotorykh apriornykh otsenkakh v obobshchennoy zadache Dirikhle)

PERIODICAL: Doklady Akademii nauk SSSR, 1959, Vol 124, Nr 4, pp 735-738(USSR)

ABSTRACT: The author complains of the fact that his estimations for the higher derivatives of the solution of the Dirichlet problem (obtained 50 years ago) in the modern papers either are not mentioned or are mentioned distorted. With some little changes (suggested by N.I. Akhiyezer) the old results [Ref 1,2] are given again.
There are 2 references, 1 of which is Soviet, and 1 German.

ASSOCIATION: Matematicheskiy institut imeni V.A.Steklova Akademii nauk SSSR (Mathematical Institute imeni V.A.Steklov AS USSR)

SUBMITTED: November 17, 1958

Card 1/1

BERNSHTEYN, S.N.

The KRU-10 radio reception and rediffusion center with a varying output power. Vest. sviazi 15 no.7:11-12 Jl '55. (MLRA 8:8)

1. Starshiy inzhener laboratorii Novosibirskoy direktsii radio-translyatsionnoy seti. Vest. sviazi 15 no.7:11-12 Jl '55.
(Radio--Transmitters and transmission)

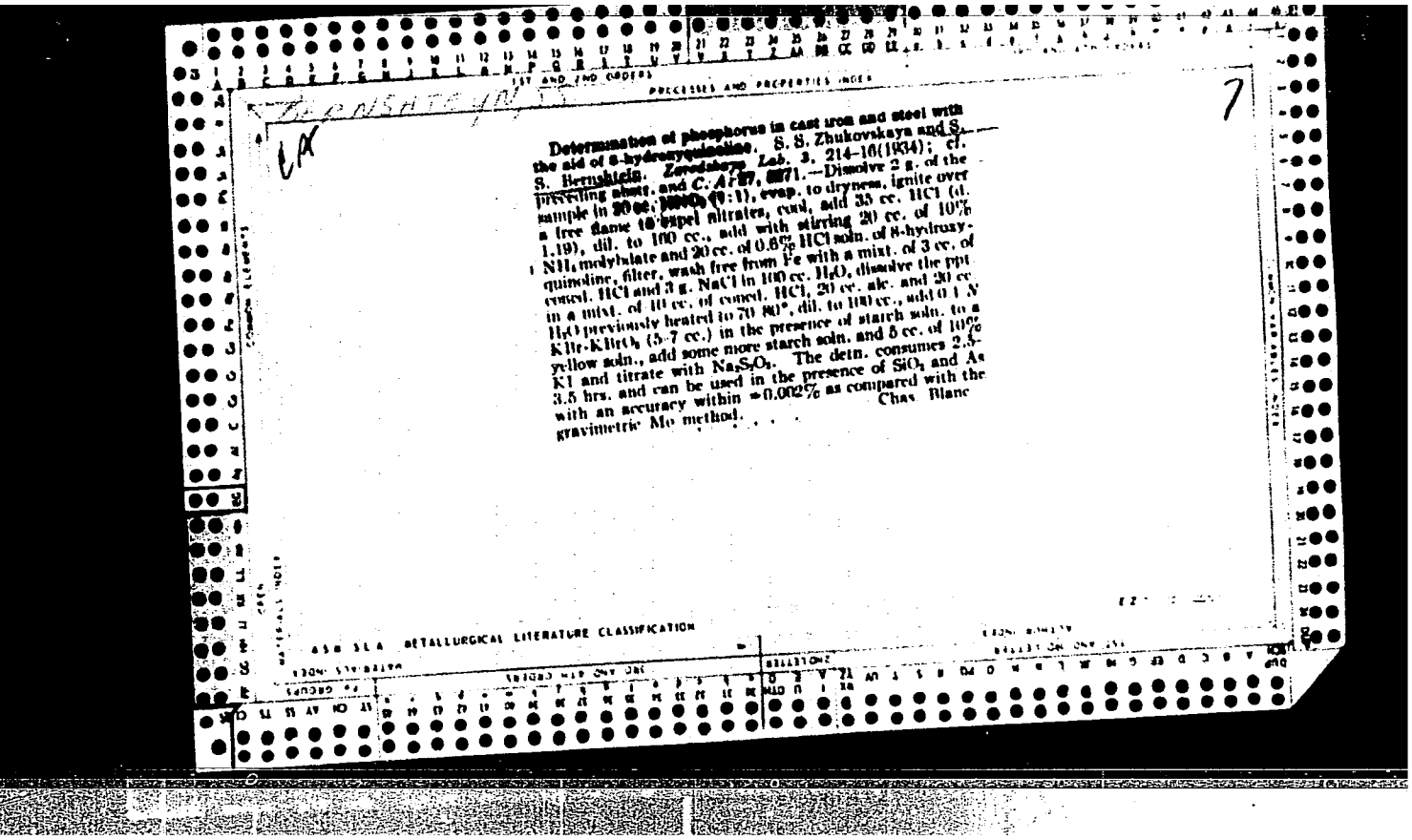
BERNSHTEYN, S.N.; AKHIYEZER, N.I., red.; KOLMOGOROV, A.N., red.; PETROVSKIY, I.G., red.; RYVKIN, A.Z., red.izd-va; VIDENSKIY, V.S., red.izd-va; MARKOVICH, S.G., tekhn.red.

[Collected works] Sobranie sochinenii. Moskva, Izd-vo Akad. nauk SSSR. Vol.3. [Differential equations, calculus of variations and geometry (1903-1947)] Differentsial'nye uravneniia, variatsionnoe ischislenie i geometriia (1903-1947). 1960. 438 p. (MIRA 13:8)

(Differential equations) (Calculus of variations) (Geometry)

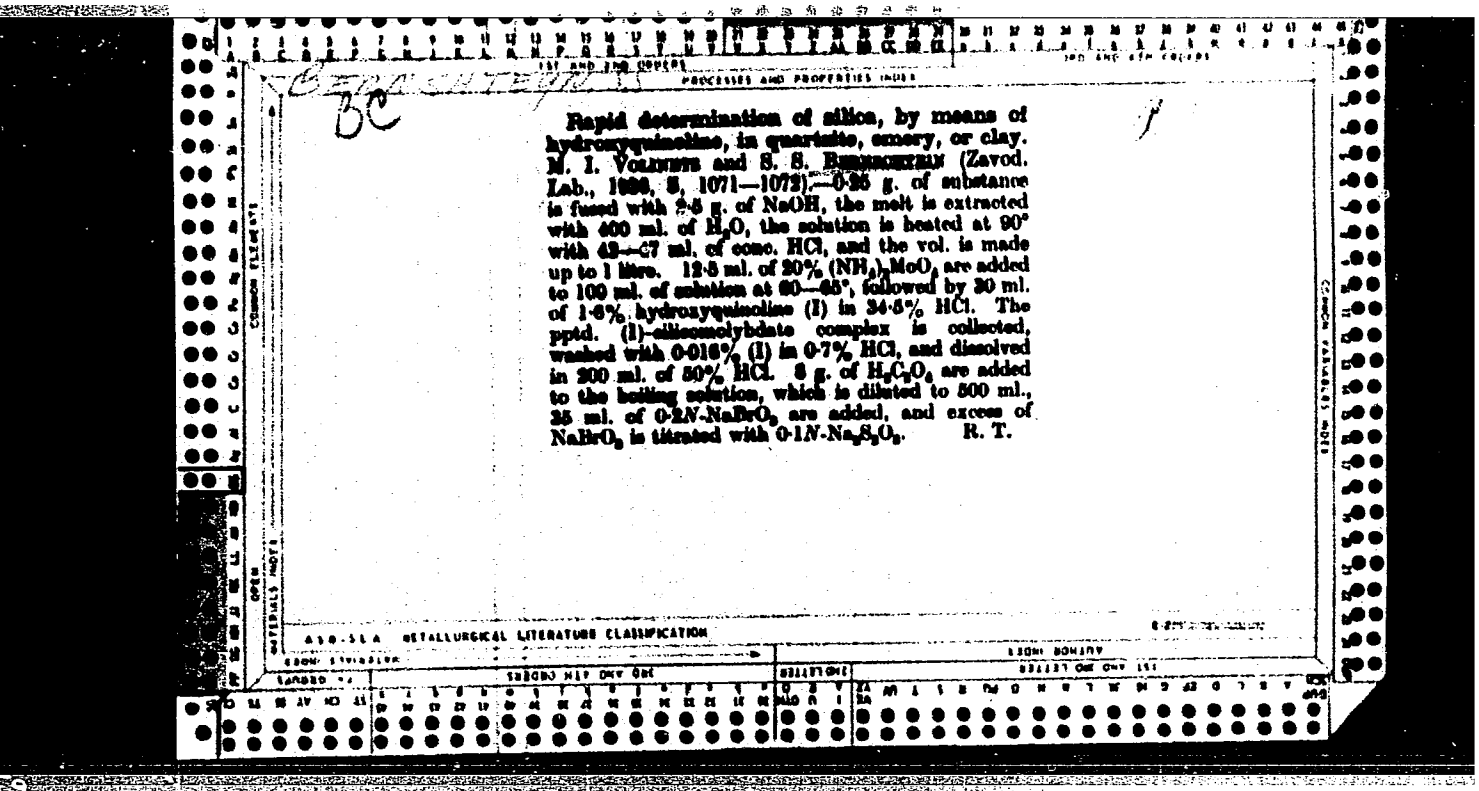
BERNSHTEYN, Sergey Natanovich; AKHIYEZER, N.I., red.; KOLMOGOROV, A.N., red.; PETROVSKIY, I.G., red.

[Collection of works] Sobranie sochinenii. Moskva, Nauka, Vol.4. 1964. 574 p. (MIRA 17:11)



Determination of phosphorus in cast iron and steel with the aid of 8-hydroxyquinoline. S. S. Zhukovskaya and S. S. Hernshtein. Zavodskaya Lab. 3, 214–16(1934); cf. preceding abstr. and C. A. 27, 3871.—Dissolve 2 g. of the sample in 30 cc. HNO$_3$ (1:1), evap. to dryness, ignite over a free flame to pupel nitrates, cool, add 35 cc. HCl (d. 1.19), dil. to 100 cc., add with stirring 20 cc. of 10% NH$_4$ molybdate and 20 cc. of 0.6% HCl soln. of 8-hydroxyquinoline, filter, wash free from Fe with a mixt. of 3 cc. of concd. HCl and 3 g. NaCl in 100 cc. H$_2$O, dissolve the ppt in a mixt. of 10 cc. of concd. HCl, 20 cc. alc. and 20 cc. H$_2$O previously heated to 70–80°, dil. to 100 cc., add 0.1 N KIr-KIrCl$_6$ (5–7 cc.) in the presence of starch soln. to a yellow soln., add some more starch soln. and 5 cc. of 10% KI and titrate with $Na_2S_2O_3$. The detn. consumes 2.5–3.5 hrs. and can be used in the presence of SiO_2 and As with an accuracy within ±0.002% as compared with the gravimetric Mo method. . . . .

Chas. Blanc



Rapid determination of silica, by means of hydroxyquinoline, in quartzite, emery, or clay. M. I. Volynets and S. S. Rumyantsev (Zavod. Lab., 1939, 8, 1071—1072).—0·25 g. of substance is fused with 2·5 g. of NaOH, the melt is extracted with 400 ml. of H_2O, the solution is heated at 90° with 45—67 ml. of conc. HCl, and the vol. is made up to 1 litre. 12·5 ml. of 20% $(NH_4)_2MoO_4$ are added to 100 ml. of solution at 60—65°, followed by 30 ml. of 1·6% hydroxyquinoline (I) in 34·5% HCl. The pptd. (I)-silicomolybdate complex is collected, washed with 0·016% (I) in 0·7% HCl, and dissolved in 200 ml. of 50% HCl. 8 g. of $H_2C_2O_4$ are added to the boiling solution, which is diluted to 500 ml., 25 ml. of 0·2*N*-$NaBrO_3$ are added, and excess of $NaBrO_3$ is titrated with 0·1*N*-$Na_2S_2O_3$. R. T.

43191
S/065/62/000/012/004/005
E075/E135

11.9700

AUTHORS: Vipper, A.B., Kreyn, S.E., Bernshteyn, S.S., and Lisovskaya, M.A.

TITLE: Investigation of the dispersing capacity of used oils with detergent additives by the oil spot method

PERIODICAL: Khimiya i tekhnologiya topliv i masel, no.12, 1962, 50-55

TEXT: The method of oil spots (spreading of used oil drops on a filter paper) was used to rate the dispersant properties of oils МТ-16 (MT-16) from Novokuybyshev refinery, containing additive ИП-22К (IP-22K). Samples of the oils used in a single cylinder diesel engine for 30 and 54 hours had the same dispersive capacity at 20 °C, but at 150 °C the oil used for 54 hours had markedly inferior dispersive properties. Oils MT-16 from Novokuybyshev and Yaroslav refineries containing 6% of additive ВНИИ НП-360 (VNII NP-360) had different dispersivities at 20 °C, but similar dispersivities at 150 °C. The Novokuybyshev oil containing the additive loses its dispersive properties with increasing temperature

Card 1/2

more rapidly than the Yaroslav oil. It was established that differences in the response of the base oils to the same additive are largely due to resins which have strong dispersive activity at room temperature, but lose it at 100-200 °C. The resins produced in sulphurous Kuybyshev oil are the more efficient dispersants. Also the dispersive capacity of the more polar resin fractions, obtained by chromatography on silica gel, is higher than that of the less polar fractions. At temperatures above 100 °C the resins lose their effectiveness and the dispersive capacity of the two oils is mainly influenced by the additive. Thus the response of various base oils to detergent additives depends on the nature and quantity of resins accumulating in the oils during engine operation. There are 3 figures and 1 table.

ARONE, R.G.; SOKOLOVSKIY, P.I.; BERNSHTEYN, S.V.

Method of electron fractographic study of fractures of low alloy steel. Zav.lab. 30 no.12:1476-1478 '64. (MIRA 18:1)

1. TSentral'nyy nauchno-issledovatel'skiy institut stroitel'nykh konstruktsiy.

ARONE, R.G.; SOKOLOVSKIY, P.I.; BERNSHTEYN, S.V.; ARNOL'D, G.Ye.

Correspondence between the macroscopic and microscopic structures of brittle fractures. Zav. lab. 31 no.11:1376-1380 '65.
(MIRA 19:1)

1. TSentral'nyy nauchno-issledovatel'skiy institut stroitel'nykh konstruktsiy imeni Kurchenko.

SAMARIN, Roman Ivanovich; BERNSHTEYN, V.A., red.; LEVANOV, Yu.M., otv.za vypusk; NAGIBIN, P.A., tekhn.red.

[Studies on the history of the public health system in Kazakhstan] Ocherki istorii zdravookhraneniia Kazakhstana. Alma-Ata, Kazakhskoe gos.izd-vo, 1958. 161 p. (MIRA 12:8)
(Kazakhstan--Public health)

BERNSHTEYN, Vitaliy Aleksandrovich; STAROSTENKOVA, M.M., red.; SAVCHENKO, Ye.V., tekhn.red.

[Hybiene of mental labor] Gigiena umstvennogo truda. Moskva, Izd-vo "Znanie," 1960. 38 p. (Vsesoiuznoe obshchestvo po rasprostraneniiu politicheskikh i nauchnykh znanii. Ser.8. Biologiia i meditsina, no.9). (MIRA 13:6)
(MENTAL HYGIENE)

BERNSHTEYN, Vitaliy Aleksandrovich [Bernshtein, V.O.]; NEMCHENKO, Ye.M. [Nemchenko, IE.M.] [translator]

[Hygiene of mental activity] Gigiiena rozumovoi pratsi. Kyiv, 1960. 43 p. (Tovarystvo dlia poshyrennia politychnykh i naukovykh znan' Ukrains'koi RSR. Ser.5, no.22). (MIRA 14:4)

(MENTAL HYGIENE)

BERNSHTEYN, V.A.

Role of the liver in carbohydrate metabolism in experimental hypothermia. Zdrav. Kazakh. 21 no.2:42-48 '61. (MIRA 14:3)

1. Is Instituta krayevoy patologii AN Kazakhskoy SSR.
(CARBOHYDRATE METABOLISM) (HYPOTHERMIA)
(LIVER)

BERNSHTEYN, V.A.

Muscle glycogen concentrations in experimental hypothermia. Zdrav. Kazakh. 22 no.10:51-54 '62. (MIRA 17:5)

1. Iz Instituta krayevoy patologii AN Kazakhskoy SSR.

BERNSHTEYN, V.A.; VISLENEVA, L.O.; YELIN, I.A.

Epoxy resins and their use in ship repair. Trudy TSNIIMF no.25:3-30 '59. (MIRA 12:8)
(Resins, Synthetic) (Ships--Maintenance and repair)

BERNSHTEYN, V.A.; KRASIL'SHCHIKOVA, B.L.

Nonmetallic coatings for corrosion protection of inner surfaces of oil tanker tanks. Trudy TSNIIMF no.25:73-86 '59. (MIRA 12:8)

(Protective coatings) (Tank vessels--Painting)

LUKMANOV, Nasyr Lukmanovich; BERNSHTEYN, V.A., red.; TURABAYEV, V., tekhn.red.

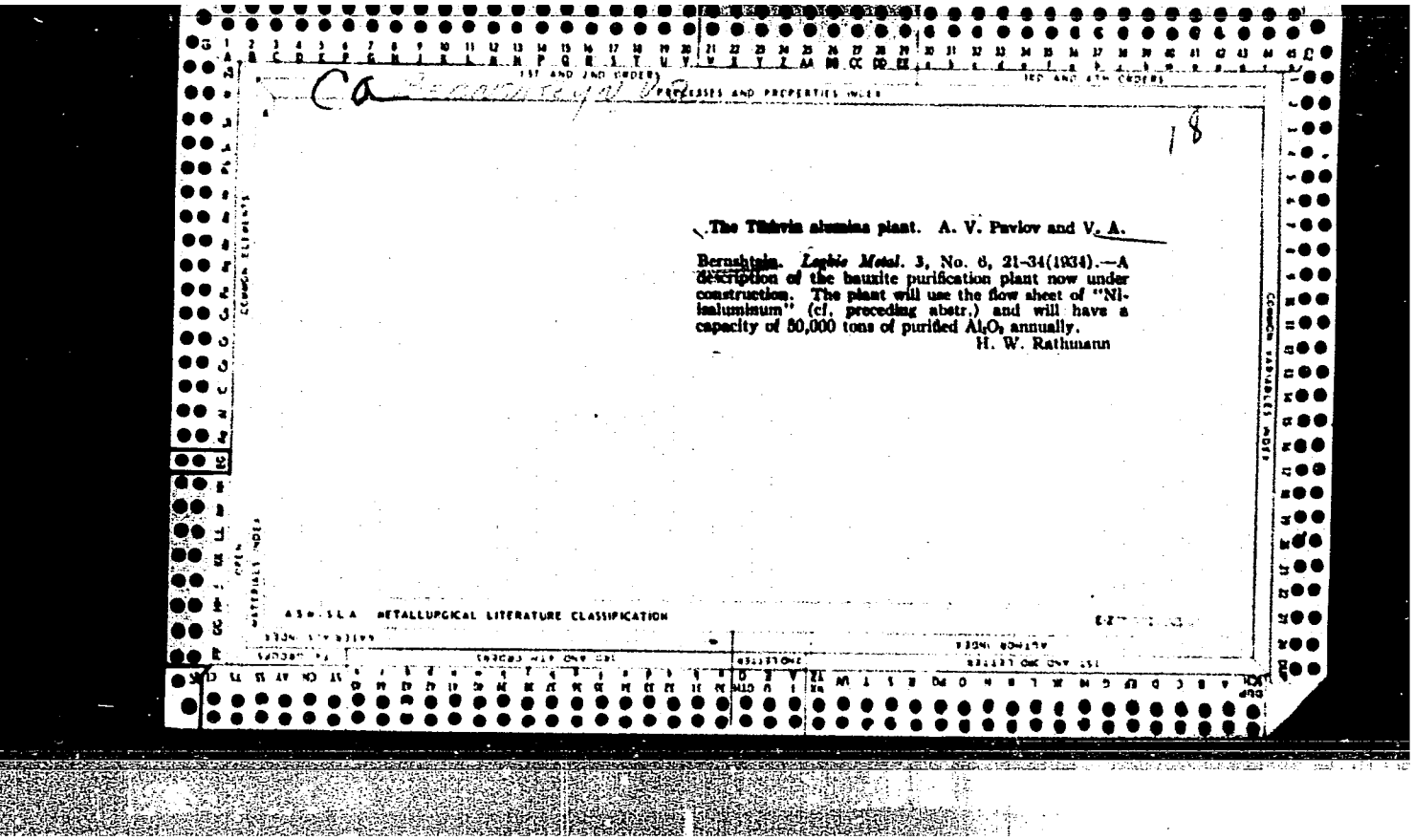
[Building practices on the Golodnaya Steppe] Opyt stroitel'stva v Golodnoi stepi. Alma-Ata, Kazakhskoe gos.izd-vo, 1958. 22 p. (MIRA 13:3)

(Golodnaya Steppe--Building)

BERSHTEYN, V.A.; GLIKMAN, L.A.

Fatigue test methods for glass reinforced plastics under pure bending of flat specimens with predetermined moment. Zav.lab. 29 no.7:858-863 '63. (MIRA 16:8)

1. TSentral'nyy nauchno-issledovatel'skiy institut morskogo flota.
(Glass reinforced plastics--Testing)



Ca

18

The Tikhvin alumina plant. A. V. Pavlov and V. A. Bernshtein. *Legkie Metal.* 3, No. 6, 21-34(1934).—A description of the bauxite purification plant now under construction. The plant will use the flow sheet of "Nialuminium" (cf. preceding abstr.) and will have a capacity of 50,000 tons of purified Al_2O_3 annually.

H. W. Rathmann

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

BERNSHTEYN, V. A.

SOV/137-58-8-16628

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 8, p 54 (USSR)

AUTHORS: Bernshteyn, V.A., Lyapunov, A.N., Montvid, A.E.

TITLE: The Development and Improvement of the Bayer Process in the USSR (Razrabotka i usovershenstvovaniye sposoba Bayyera v SSSR)

PERIODICAL: V sb.: Legkiye metally. Nr 4. Leningrad, 1957, pp 26-33

ABSTRACT: The USSR was the first country in which the Bayer process was used for separation-resistant diaspore bauxites (B) with elevated contents of Ca and Mg carbonates and organics. This required a marked change in the engineering parameters of the process and an improvement in equipment design. Wet grinding of the B in a closed cycle was employed with classification in hydrocyclones. This made it possible to obtain >70% of 53-micron undersize. An increase in leaching (L) temperature to 220-230°C and of pressure to 22-28 atmospheres excess pressure made it possible to increase extraction of Al_2O_3 to 89-90%, to obtain a solution of 1.65 basicity and reduce the consumption of caustic. A system of vertical series-connected autoclaves without mechanical stirrers has been developed for

Card 1/2

SOV/137-58-8-16628

The Development and Improvement of the Bayer Process in the USSR

continuous L. Five-compartment red-mud thickeners made it possible to treat pulp of 1.7-1.68 basicity without hydrolytic losses of Al_2O_3, and the return of the slime waters in the washing system eliminated losses of caustic and Al_2O_3 in the final tailings and made for a considerable saving of soda. Improvement in decomposer design made it possible to reduce the duration of aluminate-solution centrifuging to 58-60 hours with 50-52% decomposition of the solution. A combination of methods of vaporizing the solutions with sintering of the soda, that has crystallized out, was developed to remove the carbonates and organic substances accumulating therein from the return solutions. Ideas are advanced relative to the directions to be followed in further improvement of the processes and equipment.

G.Z.

1. Bauxite--Processing 2. Aluminum--Production

Card 2/2

BERNSHTEYN, V. A.

137-58-5-9272

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 5, p 70 (USSR)

AUTHORS: Bernshteyn, V.A., Matsenok, Ye.A.

TITLE: Interaction of $FeCO_3$ and $MgCO_3$ With an Alkali-aluminate Solution During Leaching of Bauxite in the Bayer Process (O vzaimodeystvii $FeCO_3$ i $MgCO_3$ so shcheloche-alyuminatnym rastvorom pri vyshchelachivanii boksita po Bayyeru)

PERIODICAL: Tr. Vses. alyumin.-magn. in-ta, 1957, Nr 39, pp 72-74

ABSTRACT: It was established, as a result of experiments performed on siderite rock and $MgCO_3$, that even at small concentrations the alkali-aluminate solution participates in irreversible reactions with siderite and magnesite during which sodium carbonate compounds are formed. In order to avoid an increase of CO_2 in solutions employed for leaching of bauxite, it is advisable that the amount of $Ca(OH)_2$ be increased so as to caustify the additional Na_2CO_3, the formation of which accompanies the reaction of siderite and magnesite with lye. I. P.

1. Bauxite--Processing 2. Alkali-aluminate--Chemical reactions
3. Magnesite--Chemical reactions 4. Siderite--Chemical reactions

Card 1/1

137-58-6-11911

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 6, p 104 (USSR)

AUTHOR: Bernshteyn, V.A.

TITLE: The Process of Leaching Diaspore Bauxites with Soda and Lime (Protsess sodovo-izvestkovogo vyshchelachivaniya diasporovykh boksitov)

PERIODICAL: Tr. Vses. alyumin.-magn. in-ta, 1957, Nr 39, pp 75-86

ABSTRACT: An examination is made of the desirability of employing soda-and-lime leaching (SLL) for diaspore bauxites (DB) and of the influence of temperature, Na_2CO_3, and the metering of CaO on the process of DB leaching is investigated with the purpose of determining the optimum conditions for this process. The SLL process is practicable for all bauxites processes employed in industry, including DB. The use of SLL for DB and bemite bauxites is particularly desirable when bauxites with elevated carbonate minerals contents are to be treated, since SSL does not require any complication of the steaming process and completely eliminates the need to adhere to special technical limits for the recovery and conversion of Na_2CO_3 into NaOH. A further advantage of SLL over the

Card 1/3

137-58-6-11911

The Process of Leaching Diaspore Bauxites with Soda and Lime

Bayer process is the reduction (due to partial formation of Ca aluminosilicate) of chemical losses of caustic with Na aluminosilicate. A rational scheme for heating the pulp is required for more economical production of alumina from monohydrate bauxites when SLL is used. This scheme should be based on the most intensive possible heating of the incoming bauxite pulp by the liberated heat of the autoclave pulp. An inadequacy of the SLL process as compared to the Bayer process, where concentrated solutions are involved, is the considerable increase in unit flow of material at the leaching stage relative to the NaOH concentration in the autoclaves in the two procedures. In addition, at identical bauxite leaching temperature, the pressure in the autoclaves in work with solutions of the appropriate concentrations in the SLL process significantly exceeds the pressure with concentrated solutions due to the difference in the temperature depression, and this requires autoclave operation at higher pressures. When the bauxites contain elevated quantities of organic compounds, the question as to the most appropriate method of removing these compounds from the process in the treatment of uncalcined bauxites requires special study. The desirability of using SLL for monohydrate bauxites is determined by technical and economic comparisons, taking into consideration all of the advantages and disadvantages of this method and the characteristics of the ore being worked. In the case of DB

Card 2/3

137-58-6-11911

The Process of Leaching Diaspore Bauxites with Soda and Lime

containing carbonate impurities, the SLL process has indisputable technical advantages over the standard Bayer process.

N.P.

1. Aluminum ores--Processing 2. Sodium--Applications 3. Calcium oxide--Applications

Card 3/3

137-58-6-11914

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 6, p 104 (USSR)

AUTHOR: Bernshteyn, V.A.

TITLE: A Process of Leaching Crushed Sinter in Diffusion Batteries and Methods for Its Improvement (Protsess vyshchelachivaniya droblenogo speka v diffuzornykh batareyakh i puti yego uluchsheniya)

PERIODICAL: Tr. Vses. alyumin.-magn. in-ta, 1957, Nr 39, pp 150-169

ABSTRACT: The process of leaching sinter (S) in diffusion batteries (DB) may be improved by strict adherence to the necessary regimens providing for minimum occurrence of secondary reactions for an S of given granulometric composition. The most important conditions are: 1) continuity of the flow of solution in the battery and adherence to the established schedule of filling and removal at each entrance diffusor D, and regulation of the amount of solution yielded from the DB by changing the flow of material in prior or subsequent conversions by means of a temporary change in the amount of S charged into the D. This reduces overall secondary losses arising from forced shutdown of batteries and slowing of the cycle; 2) creation of a

Card 1/2

A Process of Leaching (cont.)

normal temperature regimen and control thereof throughout the whole battery. An increase in extraction in entrance D may be attained: 1) by a more rapid exchange of solutions in entrance D than in the others (by 2-stage leaching with different rates of flow of solution in the "entrance" and "exit" D's; 2) acceleration of the diffusion process between solutions retained in the microscopic pores and those flowing in the batteries along the outer surfaces of pieces of S, also by improvement of hydrodynamic conditions in the D, for which improvement in the granulometric composition of the S is required; 3) reduction in the class sizes of the muds obtained from ordinary BD's and washing in a decantation apparatus with diluted solutions (3-4 g Al_2O_3/liter). Adherence to these procedures makes it possible to increase extraction from crushed S to as much as 87-88% Al_2O_3 and 94-95% caustic and to cut losses of caustic in leaching by 40-50%.

C.B.

1. Sintered aluminum ores--Processing 2. Sintered aluminum ores--Properties
Industrial plants--Equipment

Card 2/2

137-58-6-11912

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 6, p 104 (USSR)

AUTHOR: Bernshteyn, V.A.

TITLE: An Investigation of the Process of Leaching Diaspore Bauxites and Methods of Intensifying the Bayer Process (Issledovaniye protsessa vyshchelachivaniya diasporovykh boksitov i puti intensifikatsii sposoba Bayera)

PERIODICAL: Tr. Vses. n.-i. alyumin.-magn. in-ta, 1957, Nr 40, pp 3-20

ABSTRACT: A discussion is presented of the selection of a rational direction for intensifying the bauxite leaching process. An experimental study is made of the influence of the temperature (205-240°C) and the concentration of caustic 200-300 g Na_2O_k/liter) upon the equilibrium value of the standard solution attainable on leaching diaspore bauxite. A study is made of the rate of leaching of diaspore bauxites in accordance with temperature and strength of caustic. A calculation is made of the steam needed for leaching and evaporation of the reflux solution at 225, 240, 260, and 270°. It is shown that, all other conditions being equal, an increase in temperature makes it possible to attain higher extraction of Al_2O_3 from diaspore bauxites and to

Card 1/2

137-58-6-11912

An Investigation of the (cont.)

reduce significantly the caustic standard as compared with that accepted in the Bayer process (1.8). At 240° the limit of the standard is α_k =1.5-1.6 when the concentration of the reflux solution is, respectively, 300-250 g Na_2O_k per liter. Production of aluminate solutions in which α_k =1.55-1.6 makes it possible to intensify the centrifuging process (50 hours). In addition, the amount of hydroxide obtained from the original aluminate solution at $\alpha_k \sim 1.55$ rises by 30% when compared with solutions in which α_k =1.8.

N.P.

1. Aluminum ores--Processing 2. Aluminum oxides--Production

Card 2/2

AUTHORS: Bernshteyn, V.A. and Matsenok, Ye.A. 136-58-3-10/21

TITLE: Influence of the nature of diaspore in bauxites on the degree of its extraction by leaching (Vliyaniye prirody diaspora v boksitakh na stepen' ego izvlecheniya pri vyshchelachivanii)

PERIODICAL: Tsvetnyye Metally, 1958, Nr.3. pp. 55-60 (USSR)

ABSTRACT: The authors suggest that improvement in the effectiveness of leaching aluminium oxide from bauxites requires a systematic study of the mineralogy of the minerals and micro and macro-structural features. They refer to the importance of diaspore bauxites and discuss the opinions and work on such materials of S.I. Beneslavskiy, Ye.V.Rozhkova (VIMS) and O.I. Arakelyan (VAMI). Two forms of diaspore of sufficient purity were used in the authors' own investigation; vein diaspore was isolated from other minerals in which it occurs in the form of small plates; finely crystalline flaky diaspore was obtained from bauxite by the method developed by M.F. Kompaneyts (UAZ). The former contained 82.6 and the latter 72.7 - 76.1 or 64.9% Al_2O_3 depending on which of two bauxites were its source. A.M. Dmitriyeva (VAMI) made a crystallo-optical study of the two bauxites. The vein diaspore was found by the authors to have a lower specific surface (by Tovarov's air-flow resistance method) than similarly sized flaky diaspore, and they attribute to this the slower solution of the vein fraction. Leaching experiments were carried out with heating rates (223°C in the autoclaves in 8-10 minutes) resembling those in full-scale

Card 1/2

Influence of the nature of diaspore in bauxites on the degree of its extraction by leaching.

installations and continued for 2 or 3 hours. They showed (table.3) mixtures of the two forms of diaspore to dissolve more slowly than either taken single under the same conditions. The authors suggest that specific surface rather than size grading of bauxite is the important criterion for leaching and that statistical data should be assembled for selecting optimal values. There are 3 tables, 2 figures and 4 Slavic references.

AVAILABLE: Library of Congress.

1. Aluminum hydroxide-Structural analysis 2. Bauxite-Processing
3. Aluminum-Production 4. Aluminum oxides-Preparation

Card 2/2

SOV/136-58-12-13/22

AUTHORS: Bernshteyn, V.A. and Matsenok, Ye.A.

TITLE: Possibility of Decreasing Chemical Losses of Alkali in the Production of Alumina by the Bayer Method (Vozmozhnost' umen'sheniya khimicheskikh poter' shchelochi v proizvodstve glinozema po sposobu Bayera)

PERIODICAL: Tsvetnyye Metally, 1958, Nr 12, pp 61 - 66 (USSR)

ABSTRACT: The method of treating with lime the washed waste sludge from the Bayer process to regenerate caustic soda from the sodium alumino-silicate proposed in 1940 by Professor I.S. Lileyev is not economic under Soviet conditions. The work of the authors at VAMI and that of M.F. Kompaniyets at the Ural'skiy alyuminiyevyy zavod (Ural Aluminium Works) suggests a more suitable way of using lime in which larger quantities of lime are added in the leaching of diasporic bauxites. The results obtained (Table 1) when average samples of such bauxites were leached with up to 7% CaO (instead of the 3-4% generally used) showed approximately 25% reduction of alkali loss and were confirmed with other samples and up to 8% CaO. Optical and X-ray structural examinations were carried out by O.I. Arakelyan and M.S. Beletskiy at VAMI of the solid phases obtained as a result of the

Card 1/3

Possibility of Decreasing Chemical Losses of Alkali in the Production of Alumina by the Bayer Method

reaction of opal and chalcedony with alkali-aluminate solution in the presence of various quantities of CaO. The effect of increasing CaO additions on the depth of replacement of sodium by calcium in alumino-silicate was found to depend on the molar CaO : SiO_2 ratio, the effect of a given addition being more favourable with lower-SiO_2 bauxites. Increased lime additions accelerated the leaching of diaspore bauxite and this would enable more stable Al_2O_3 extraction to be attained from various bauxites in the time available in practice (2-2 1/2 hours). Alumina losses through the addition of large quantities of lime could be avoided (Table 2) by introducing it into the washing system. Because of the caustification of the soda, the causticity modulus of the wash water rises sufficiently to prevent hydrolysis when aluminate solutions with a causticity modulus of the order of 1.65:

Possibility of Decreasing Chemical Losses of Alkali in the Production of Alumina by the Bayer Method

this will eliminate losses through hydrolysis, estimated at 1.5%. The authors state that they have, since the publication of the article, obtained similar results with bemitic bauxites.
There are 2 figures and 2 tables.

BERNSHTEYN, V.A.

TITLE: Conference on Autoclave Processes

PERIODICAL: Tsvetnyye metally, 1959, Nr 7, pp 84-87 (USSR)

ABSTRACT: On 23-26 February 1959 a conference was held in Moscow for summing-up and coordinating work on autoclave processes in the metallurgy of heavy, non-ferrous, rare and noble metals. The conference heard reports as follows:

D.M. Yakhontov, Gintsvetmet, on progress throughout the world on the use of hydrometallurgical, particularly autoclave, methods for non-ferrous and rare metal production;

G. N. Dobrokhotov, Gipronikel', on nickel leaching practice at some Soviet works: M. I. Gnuchkina and G. N. Dobrokhotov on the thermodynamics and kinetics of the selective reduction by hydrogen and carbon monoxide under pressure of nickel and cobalt from solution; I. Yu. Leshch and K. M. Shilenok, Gipronikel', on design decisions on the application of the flowsheets dealt with by G. N. Dobrokhotov at the Yuzhuralnikel' and Severonikel' Combines and the Ufaleynikel (Ufa) Nickel Works; I. N. Kolesnikova, Leningradskiy gornyy institut (Leningrad Mining Institute) on the advantages of a combined flotation-autoclave method for nickel-electrolysis of slimes containing cobalt, platinum-group metals; L. B. Zaliken, Severonikel' Combine, and S. I. Sobol', Gintsvetmet, on the essentials of the neutral method of oxidizing leaching of nickel concentrate from converter-matte flotation; S. I. Sobol' on preliminary investigations on the development of a sulphurous-sulphuric method for leaching nickel and cobalt from oxidised nickel ores; M. M. Maslenitskiy, Mekhanobr, on the main results of investigations of the autoclave-soda process for treating tungsten-ore beneficiation products: V. I. Pomnitsyn, Mekhanobr, and D. A. Malakhov, Skopin-sharn (Ryazhsk) TMZ, separately, on problems in the application of autoclave-soda flowsheet to scheelite and wolframite raw material; G. A. Meyerson, K. Ya. Shaplin, B. E. Zhuravlev, R. A. Terpuk and A. P. Nikolayev, Krasnoyarskiy Institut tsvetnykh metallov (Krasnoyarsk Non-Ferrous Metals Institute) on the treatment of tungsten concentrates in laboratory, heated ball-mills with solids or caustic alkalies; Z. L. Berlin, I. F. Polak, S. I. Sobol', Ye. I. Golyayeva, Z. L. Berlin, I. F. Polak and B. I. Rudenko, Gintsvetmet, on the treatment of prepared and unprepared sulphide molybdenum raw material by oxidizing autoclave alkaline leaching; I. M. Majed and S. I. Sobol' on the kinetics of oxidizing autoclave leaching; A. M. Zeliman and Z. M. Lyapina, Krasnoyarsk Non-Ferrous Metals Institute, on the results of a study of conditions for the selective separation of lower oxides of tungsten and molybdenum from their salt solutions by hydrogen under pressure; M. V. Parbuyan, Gorno-metallurgicheskiy institut (Mining-Metallurgical Institute) of the Bornarbor (economic council) of the Armyanskaya SSR on his investigations of ammoniacal autoclave leaching, under oxygen pressure of molybdenum concentrates; S. A. Sobol', on technical-economic factors of ammoniacal leaching; A. I. Shmidt-Alkova and I. N. Plaksin, Krasnoyarsk Non-Ferrous Metals Institute, on an oxidising autoclave process for gold-containing raw material; I. Yu. Turin, Ural'skiy politekhnicheskiy institut (Ural Polytechnic Institute) on the behaviour of noble metals in oxidizing autoclave leaching in chloride solutions; A. I. Theft and D. A. Tarasin and A. Yu. Deddokhayev, Institut metallurgii i obogashcheniya AN Kaz SSR (Metallurgy and Beneficiation Institute of the AS Kaz SSR), respectively, on the physicochemical fundamentals and on works trials of autoclave salt leaching of polymetallic materials; I. Yu. Leshch, Gipronikel', on the unsuitability of autoclave leaching process for lime-containing materials; V. A. Barabanov, VAMI, on industrial experience of a continuous autoclave plant; V. G. Troner, IONKh AN SSSR (IONKh AS USSR), on compounds of some rare elements in various valency states under oxygen and hydrogen pressure in the presence of anhydrous ammonia; Z. L. Berlin, Gintsvetmet, on autoclave design and operation; P. G. Yakovlev, Gipronikel' and M. Ye. Tikhonovskiy, VAMI on model studies on autoclaves and the development of mixers; K. A. Polyanov, E. B. Girodmet, on the design of an experimental high-pressure pulp pump; G. L. Sharafa, Mekhanobr, on the selection of steel for acid leaching of cobalt matte and matte-flotation concentrate; Yu. I. Archakov, VNIImetekhkim on corrosion of types Kh18N9T, 12Kh2M1, 10Kh5MD and 10GMD steels in soda and alkaline solution in the presence of metal salts and oxygen at 5 - 15 kg/cm²; V. I. Deryabina and N. N. Kalgina, VNIImetekhkim, separately, on mechanical properties of hydrogen-affected steels. The conference made recommendations aimed at the extension and improve-

Card 1/5 Card 2/5 Card 3/5 Card 4/5

BERNSHTEYN, V.A.

Concentration of glucose in different humoral media and glycogen in the liver and muscles of normal dogs. Izv. AN Kazakh. SSR. Ser. med. nauk. no.1:28-31 '63. (MIRA 16:10)

BERSHTEYN, V.A.; GLIKMAN, L.A.

Time dependence of the strength of heterogeneous materials. Fiz. tver. tela 5 no.8:2270-2277 Ag '63. (MIRA 16:9)

1. TSentral'nyy nauchno-issledovatel'skiy institut Morskogo flota, Leningrad.

(Strength of materials)

BERSHTEYN, V.A.; GLIKMAN, L.A.

Mechanism of the delayed destruction of polyester vitreoplastics. Fiz. tver. tela 5 no.8:2278-2284 Ag '63. (MIRA 16:9)

1. TSentral'nyy nauchno-issledovatel'skiy institut Morskogo flota, Leningrad.
(Plastics) (Strength of materials)

BERNSHTEYN, V.A.

Role of blood glucose in the energetics of cold-induced tremor. Izv. AN Kazakh. SSR. Ser. med. nauk 11 no.2:27-31 '64. (MIRA 17:7)

BERNSHTEYN, V.A.

Magnetic field at the foot of the Klyuchevskiy volcano. Biul. Vulk. sta. no. 28:58-78 '59. (MIRA 13:12)
(Klyuchevskiy volcano--Magnetism, Terrestrial)

S/169/61/000/008/040/053
A006/A101

AUTHOR: Bernshteyn, V.A.

TITLE: On the magnetic field on the Zavaritskiy Volcano (Simushir Island, Kuril Islands)

PERIODICAL: Referativnyy zhurnal. Geofizika, no. 8, 1961, 32, abstract 8G228 ("Byul. Vulkanol. st. AN SSSR", 1960, no. 30, 55 - 68)

TEXT: A survey was made of the Z-component of the geomagnetic field at 50 points on the shores of a crater lake. Z_a varied from 900 to 5000 γ. Measurements were made of natural remanent magnetization I_n in oriented lava samples, forming the volcano cone: $I_n = (0.6 \div 1.4) \cdot 10^{-2}$ gauss; Koenigsberger ratio $Q = 20 \div 40$. After approximate allowance for the field of the cone Z_a turned out to be within the limits from -2400 to + 2200γ

[Abstracter's note: Complete translation]

Card 1/1

S/169/61/000/008/041/053
A006/A101

AUTHOR: Bernshteyn, V.A.

TITLE: On the possible changes of the magnetic field in the region of the Zavaritskiy Volcano during the first half year 1958

PERIODICAL: Referativnyy zhurnal. Geofizika, no. 8, 1961, 32, abstract 80229 ("Byul. Vulkanol. st. AN SSSR", 1960, no. 30, 69 - 74)

TEXT: The Z-component of the geomagnetic field was measured at two points at 1 - 2 km distance from the volcano crater with the aid of a M-2 magnetic balance. The measurements were made 1 month and 9.3 months after the eruption in November 1957. An increase of Z by $\approx 450\gamma$ was discovered. It should, however, be taken into account that the zero point of the instrument was shifted by 202γ. It is shown that changes in Z during the mentioned time of about 100γ are only possible under the assumption that there is a considerable amount of cracks (about 10) conducting the magma to the volcano crater. Under the same assumption the author estimates relaxation time τ of heat conditions in the vol-

Card 1/2

S/169/61/000/008/041/053
A006/A101

On the possible changes of the magnetic field ...

cano bowels. The τ-value obtained was about 10^3 years. This may serve as a time criterion for distinguishing between extinct and active volcanos.

V. B.

[Abstracter's note: Complete translation]

Card 2/2

S/169/62/000/012/011/095
D228/D307

AUTHOR: Bernshteyn, V.A.

TITLE: Systematic bases of the study of magnetic anomalies in volcanic areas

PERIODICAL: Referativnyy zhurnal, Geofizika, no. 12, 1962, 15, abstract 12A145 (In collection: Vopr. vulkanizma, M., AN SSSR, 1962, 48-51)

TEXT: The author mentions factors that substantially complicate the measurement of the geomagnetic field on volcanos: the presence of strongly disturbing magnetized masses within the volcano and its vicinity (lava flows, cupolas) and the irregularity of the magnetic field of lava flows. In view of these factors it is recommended that, in order to observe the plutonic component of a volcanic magnetic anomaly, the geomagnetic field should be measured away from the lava flows (at the foot of the volcano). When carrying out multiple observations, observation points should be sited on loose volcanic deposits, in which the remanent magnetization vector

Card 1/2

BERNSHTEYN, V.A.; MATSENOK, Ye.A.

Equilibrium in the interaction of diaspore with sodium hydroxide solutions at 250° and 300°C. Zhur.prikl.khim. 38 no.9:1935-1938 S '65. (MIRA 18:11)

1. Vsesoyuznyy aluminiyevo-magniyevyy institut.

BERNSHTEYN, V.A.

Technique for determining the blood content of tissues. Fiziol. zhur. 50 no.5:640-642 My '64. (MIRA 18:2)

1. Kazakhskiy institut onkologii i radiologii, Alma-Ata.

BERNSHTEYN, V.A.; MATSENOK, Ye.A.; Prinimala uchastiye: SAMOKHVALOVA, M.V.

Solubility of boehmite in an alkaline solution at 250° and 300° C. Zhur. prikl. khim. 34 no.5:982-986 My '61. (MIRA 16:8)

(Boehmite) (Solubility)

L 01237-67 EWT(1) SCTB DD

ACC NR: AP6032713 SOURCE CODE: UR/0404/66/000/004/0073/0082

AUTHOR: Bernshteyn, V. A. 16 B

ORG: Kazakh Institute of Oncology and Radiology (Kazakhskiy institut onkologii i radiologii)

TITLE: Changes in gas exchange and electromyograms of unanesthetized dogs at different levels of hypothermia

SOURCE: AN KazSSR. Izvestiya. Seriya biologicheskaya, no. 4, 1966, 73-82

TOPIC TAGS: animal physiology, dog, muscle physiology, hypothermia, electromyography

ABSTRACT: Shifts in gas exchange and muscle bioelectric activity were studied in unanesthetized dogs under conditions of moderate hypothermia (rectal temperature of 32—36°), or deep hypothermia (26°). Premoistened male and female dogs weighing 5—14 kg were cooled in an ice-water blanket. Experiments were conducted in the summer-fall period, when animals normally react to cold with a strong intensification of muscular activity. Experimental animals were connected to an SG-1 spirograph by a rubber tube inserted in a previous tracheotomy. An EEChS-1 two-channel electroencephalograph recorded bioelectric currents from four muscles. Experimental results demonstrated that cooling unanesthetized dogs caused a pronounced elevation of the bioelectric activity of skeletal muscles. Electromyograms showed that oscillations in bioelectric activity in individual muscles at various levels of hypothermia were

Card 1/2 UDC: 616-089.583.29

L 01237-67
ACC NR: AP6032713

not identical. At a rectal temperature of 35°—31°C, oxygen consumption increased 2.5 times and pulmonary ventilation increased twofold. This relatively slight activation of gas exchange is explicable if it is postulated that the role of anaerobic processes in the muscles becomes considerably more important during hypothermia. The role of anaerobic processes seems demonstrated during deep hypothermia, when electromyograms still showed increased muscular activity although the oxygen consumption of the organism had dropped to initial levels or below. Orig. art. has: 3 figures. [JS]

SUB CODE: 06, 09/ SUBM DATE: none/ ORIG REF: 008/ OTH REF: 004/ ATD PRESS: 5097

awm

Card 2/2

BERNSHTEYN, V.M.

New design of gear boxes. Stan.i instr. 29 no.12:21-23 D '58.
(MIRA 11:12)
(Gearing)

BERNSHTEYN, V.M., inzh.

Electric drive mechanism for hand prosthesis. Protez. i protezostr. no.10:128-130 '64.

(MIRA 18:12)

1. TSentral'nyy nauchno-issledovatel'skiy institut protezirovaniya i protezostroyeniya.

YAKOBSON, Ya.S., kand.tekhn.nauk; BERNSHTEYN, V.M., inzh.; POLYAN, Ye.P., inzh.

Methods of control of multifunctional bioelectric prosthesis.
Protez. i protezostr. no.10:11-16 '64.
(MIRA 18:12)

1. TSentral'nyy nauchno-issledovatel'skiy institut protezirovaniya i protezostroyeniya.